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THE

ENGLISH FLORA,

BY

SIR JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE ACADEMIES OF
STOCKHOLM, UPSAL, TURIN, LISBON, PHILADELPHIA, NEW YORK, ETC. ETC.;
THE IMPERIAL ACAD. NATURÆ CURIOSORUM,
AND
THE ROYAL ACADEMY OF SCIENCES AT PARIS;
HONORARY MEMBER OF THE HORTICULTURAL SOCIETY OF LONDON;
AND
PRESIDENT OF THE LINNÆAN SOCIETY.

Umbellatarum genera characteribus distinguere est res difficillima.
Linn. Prælect. in Ord. Nat. 511.

Umbelliferarum character generalis simplex ac facilis, difficilis generum distinctio ac distributio.
Juss. Gen. 216.

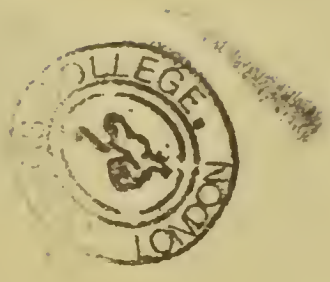
VOL. II.

LONDON:

PRINTED FOR
LONGMAN, HURST, REES, ORME, BROWN, AND GREEN,
PATERNOSTER-ROW.

1824.

832132
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PRINTED BY RICHARD TAYLOR,
SHOE-LANE, LONDON.

BOOKS QUOTED IN VOL. II.,

IN ADDITION TO THOSE IN VOL. I.

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ENGLISH FLORA.

PENTANDRIA.

Order II. DIGYNIA. Pistils 2.

* *Fl. monopetalous, inferior.*

134. SWERTIA. *Caps.* of 1 cell. *Cor.* wheel-shaped, with 2 nectariferous pores at the base of each segment.

135. GENTIANA. *Caps.* of 1 cell. *Cor.* tubular at the base, destitute of nectariferous pores.

133. CUSCUTA. *Caps.* of 2 cells, bursting all round. *Cor.* bell-shaped.

** *Fl. of 5 petals, inferior.*

Staphylea 1.

*** *Petals wanting. Seed solitary.*

129. CHENOPODIUM. *Seed* lenticular, tunicated, superior.

130. BETA. *Seed* kidney-shaped, imbedded in the fleshy *calyx.*

131. SALSOLA. *Caps.* closed, imbedded in the fleshy *calyx. Seed* with a spiral *embryo.*

128. HERNIARIA. *Caps.* closed, membranous, invested with the *calyx. Stam.* with 5 imperfect filaments.

132. ULMUS. *Caps.* closed, membranous, compressed, bordered, superior.

Polygonum 1.

**** *Fl. of* 5 *petals, superior. Seeds* 2. Umbellatæ.

A. *Fruit a single or double globe.*

152. CORIANDRUM. *Fruit* a single or double globe, smooth, without ribs. *Cal.* broad, unequal. *Petals* radiant. *Floral Recept.* none.

B. *Fruit beaked.*

143. SCANDIX. *Beak* much longer than the seeds. *Fruit* somewhat bristly. *Cal.* none. *Pet.* unequal, undivided. *Fl. Recept.* 5-lobed, coloured.

142. ANTHRISCUS. *Beak* shorter than the seeds, even. *Fr.* rough with scattered prominent bristles. *Cal.* none. *Pet.* equal, inversely heart-shaped. *Fl. Recept.* slightly bordered.

144. CHÆROPHYLLUM. *Beak* shorter than the seeds, angular. *Fr.* smooth, without ribs. *Cal.* none. *Pet.* inversely heart-shaped, rather unequal. *Fl. Recept.* wavy.

C. *Fruit solid, prickly, without a beak.*

136. ERYNGIUM. *Fr.* ovate, clothed with straight bristles. *Cal.* pointed. *Pet.* oblong, equal, inflexed, undivided. *Fl.* aggregate. *Common Recept.* scaly.

137. SANICULA. *Fr.* ovate, clothed with hooked bristles. *Cal.* acute. *Pet.* lanceolate, inflexed, nearly equal. *Fl.* separated, dissimilar.

138. ECHINOPHORA. *Fr.* ovate, imbedded in the enlarged, armed *receptacle. Seed* solitary. *Cal.* spinous. *Pet.* inversely heart-shaped, unequal. *Fl.* separated.

139. DAUCUS. *Fr.* elliptic-oblong, compressed transversely. *Seeds* with 4 rows of flat prickles, and rough intermediate ribs. *Cal.* obsolete. *Pet.* inversely heart-shaped, unequal. *Fl.* separated.

140. CAUCALIS. *Fr.* elliptic-oblong, compressed transversely. *Seeds* with 4 rows of ascending, awl-shaped, hooked prickles, the interstices prickly, or rough. *Cal.* broad, acute, unequal. *Pet.* inversely heart-shaped, unequal. *Fl.* imperfectly separated.

141. TORILIS. *Fr.* ovate, slightly compressed laterally. *Seeds* ribless, rough with scattered, prominent, ascending, rigid prickles. *Cal.* short, broad, acute, nearly equal. *Pet.* inversely heart-shaped, nearly equal. *Fl.* united.

Myrrhis 1.

D. *Fruit solid, nearly round, unarmed, without wings.*

145. MYRRHIS. *Fr.* deeply furrowed. *Cal.* none. *Pet.* inversely heart-shaped, rather unequal. *Fl. Recept.* none. *Flowers* imperfectly separated.

146. BUNIUM. *Fr.* slightly ribbed. *Cal.* small, acute, unequal. *Pet.* inversely heart-shaped, equal. *Fl. Recept.* none. *Fl.* imperfectly separated.

153. ŒNANTHE. *Fr.* ribbed, somewhat spongy. *Cal.* large, lanceolate, acute, spreading, unequal. *Pet.* inversely heart-shaped, radiant, very unequal. *Fl. Recept.* dilated, depressed. *Fl.* separated.

154. CRITHMUM. *Fr.* ribbed, coriaceous. *Cal.* small, broad, acute, incurved. *Pet.* elliptical, acute, incurved, equal. *Fl. Recept.* none. *Fl.* united, all perfect.

163. ATHAMANTA. *Fr.* ribbed, ovate, hairy. *Styles* short. *Cal.* lanceolate, acute, incurved. *Pet.* inversely heart-shaped, broadly pointed, equal. *Fl. Recept.* none. *Fl.* imperfectly separated.

164. PIMPINELLA. *Fr.* ovate, ribbed, with convex interstices. *Styles* capillary, as long as the fruit. *Cal.* none. *Pet.* inversely heart-shaped, nearly equal. *Fl. Recept.* none. *Fl.* either united or dicœcious.

E. *Fruit solid, unarmed, without wings, compressed laterally, its transverse diameter being at least twice the breadth of the juncture.*

147. SIUM. *Fr.* ovate, or orbicular, ribbed, furrowed. *Cal.* small, acute, unequal, or obsolete. *Pet.* inversely heart-shaped, or obovate, equal. *Styles* cylindrical, shorter than the petals. *Fl. Recept.* none. *Fl.* uniform, united.

148. SISON. *Fr.* ovate, or nearly orbicular, ribbed. *Cal.* obsolete or blunt. *Pet.* elliptical, or inversely heart-shaped, with an involute point, equal. *Styles* very short and thick. *Fl. Recept.* none. *Fl.* uniform, united.

149. CICUTA. *Fr.* nearly orbicular, heart-shaped at the base, with 6 double ribs. *Cal.* broad, acute, rather unequal. *Pet.* ovate, or slightly heart-shaped, nearly equal. *Styles* scarcely tumid at the base. *Fl. Recept.* depressed, withering. *Fl.* uniform, nearly regular, united.

151. CONIUM. *Fr.* ovate, with 10 acute ribs, wavy in an unripe state. *Cal.* obsolete. *Pet.* inversely heart-shaped, slightly unequal. *Styles* a little tumid at the base. *Fl. Recept.* dilated, depressed, wavy, permanent. *Fl.* slightly irregular, united.

155. SMYRNIUM. *Fr.* broader than long, concave at each side, with 6 acute dorsal ribs; interstices convex. *Cal.* very small, acute. *Pet.* equal, lanceolate, incurved; or inversely heart-shaped. *Styles* tumid and depressed at the base. *Fl. Recept.* none. *Fl.* nearly regular, partly barren or abortive.

156. APIUM. *Fr.* roundish-ovate, with 6 acute dorsal ribs; interstices flat. *Cal.* obsolete. *Pet.* roundish, with an inflexed point, very nearly equal. *Styles* greatly swelled at the base. *Fl. Recept.* thin, orbicular, wavy. *Fl.* nearly regular, united.

157. ÆGOPODIUM. *Fr.* elliptic-oblong, with equidistant ribs; interstices flattish. *Cal.* none. *Pet.* inversely heart-shaped, broad, a little unequal. *Styles* ovate at the base. *Fl. Recept.* none. *Fl.* united, all perfect, slightly radiant.

161. MEUM. *Fr.* elliptic-oblong, with equidistant ribs; interstices flattish. *Cal.* none. *Pet.* obovate, with an inflexed point, equal. *Styles* tumid at the base, short, recurved. *Fl. Recept.* none. *Fl.* united, all perfect, regular.

162. CARUM. *Fr.* elliptic-oblong, with equidistant ribs; interstices convex. *Cal.* minute, acute, often obsolete. *Pet.* inversely heart-shaped, unequal. *Styles* tumid at the base; subsequently elongated, widely spreading. *Fl. Recept.* annular, thin, wavy, permanent. *Fl.* separated, irregular.

165. CNIDIUM. *Fr.* ovate, acute, with equidistant, very sharp, ribs; interstices deep, concave; juncture contracted. *Cal.* none. *Pet.* equal, obovate, or inversely heart-shaped. *Styles* hemispherical at the base; subsequently elongated, spreading, cylindrical. *Fl.*

Recept. annular, thin, undulated, erect; afterwards depressed. *Fl.* imperfectly separated, nearly regular.

166. BUPLEURUM. *Fr.* ovate-oblong, obtuse, with prominent, acute, abrupt ribs; interstices flat; juncture contracted. *Cal.* none. *Pet.* equal, broadish-wedge-shaped, very short, involute. *Styles* very short, not extending beyond the circumference of their broad, tumid bases. *Fl. Recept.* none. *Fl.* all perfect and regular.

167. HYDROCOTYLE. *Fr.* nearly orbicular, rather broader than long, angular, much compressed; juncture very narrow. *Cal.* none. *Pet.* equal, ovate, spreading, undivided. *Styles* cylindrical, shorter than the stamens; tumid at the base. *Fl. Recept.* none. *Fl.* all perfect and regular.

F. *Fruit solid, unarmed, compressed transversely, the juncture being broader than the transverse diameter.*

150. ÆTHUSA. *Seeds* ovate, convex, with 5 tumid, rounded, acutely keeled, ribs; interstices deep, acut-angular; border none. *Cal.* pointed, very minute. *Pet.* inversely heart-shaped, rather irregular. *Fl. Recept.* none. *Fl.* all perfect, slightly radiant.

158. IMPERATORIA. *Seeds* orbicular, with a notch at each end, a little convex, with 3 prominent dorsal ribs, and a dilated, flat, even border. *Cal.* none. *Pet.* inversely heart-shaped, very slightly irregular. *Fl. Recept.* none. *Fl.* all perfect, scarcely radiant.

168. SELINUM. *Seeds* elliptical, slightly convex, with 3 acute dorsal ribs, and a dilated, flat, even border. *Cal.* minute, pointed, spreading. *Pet.* inversely heart-shaped, involute, equal. *Fl. Recept.* obsolete. *Fl.* perfect, regular, a few occasionally abortive.

159. ANGELICA. *Seeds* elliptic-oblong, convex, with 3 dorsal wings, and a narrow, flat, even border. *Cal.* none. *Pet.* lanceolate, flattish, undivided, contracted at each end, equal. *Fl. Recept.* thin, wavy, narrow, permanent. *Fl.* all perfect, regular.

160. LIGUSTICUM. *Seeds* oblong, convex, with 3 dorsal, and 2 marginal, equal wings. *Cal.* small, pointed, erect; broad at the base. *Pet.* elliptical, flattish, undivided, contracted at each end, equal. *Fl. Recept.* none. *Fl.* all perfect, regular.

G. *Fruit thin and almost flat, compressed transversely, without dorsal wings.*

169. PEUCEDANUM. *Seeds* broadly elliptical, with a notch at each end, a little convex, with 3 slightly prominent ribs; interstices striated; border narrow, flat, even, smooth and entire. *Cal.* pointed, ascending. *Pet.* inversely heart-shaped, all very nearly equal. *Fl. Recept.* none. *Fl.* regular, imperfectly separated.

170. PASTINACA. *Seeds* elliptic-obovate, with a slight notch at the summit, very nearly flat, with 3 dorsal ribs and 2 marginal ones; border narrow, flat, thin, even, smooth and entire. *Cal.* very minute, obsolete. *Pet.* broadly lanceolate, involute, equal. *Fl. Recept.* broad, orbicular, wavy, rather thin, concealing the calyx. *Fl.* regular, uniform, perfect.

171. HERACLEUM. *Seeds* inversely heart-shaped, with a notch at the summit, very nearly flat, with 3 slender dorsal ribs, 2 distant marginal ones, and 4 intermediate, coloured, depressed, abrupt lines from the top; border narrow, slightly tumid, smooth, even and entire. *Cal.* of 5 small, acute, evanescent teeth. *Pet.* inversely heart-shaped, radiant. *Fl. Recept.* wavy, crenate, obtuse. *Fl.* separated.

172. TORDYLIUM. *Seeds* orbicular, nearly flat, roughish, without ribs; border tumid, wrinkled or crenate, naked or bristly. *Cal.* of 5 awl-shaped, unequal teeth. *Pet.* inversely heart-shaped, radiant, variously unequal and irregular. *Fl. Recept.* none. *Fl.* separated.

Order III. TRIGYNIA. Pistils 3.

* *Fl. superior.*

173. VIBURNUM. *Cor.* 5-cleft. *Berry* with 1 *seed.*

174. SAMBUCUS. *Cor.* 5-cleft. *Berry* with 3 *seeds.*

** *Fl. inferior.*

175. STAPHYLEA. *Petals* 5. *Caps.* 2 or 3, inflated.

176. TAMARIX. *Pet.* 5. *Caps.* of 3 valves. *Seeds* numerous, feathered.

177. CORRIGIOLA. *Pet.* 5. *Seed* 1, naked, triangular.

Chenopodium. Stellaria 2.

Order IV. TETRAGYNIA. Pistils 4.

178. PARNASSIA. *Nectaries* fringed with bristles, bearing globes. *Caps.* of 4 valves.

Order V. PENTAGYNIA. Pistils 5.

180. LINUM. *Pet.* 5. *Capsule* of 10 cells.

181. SIBBALDIA. *Pet.* 5. *Seeds* 5, naked. *Cal.* in 10 segments.

179. STATICE. *Pet.* 5. *Seed* 1, clothed with the base of the funnel-shaped calyx.

Cerastium 3. *Spergula.*

Order VI. HEXAGYNIA. Pistils 6.

182. DROSERA. *Pet.* 5. *Caps.* of 3 valves, with many *seeds.*

Order VII. POLYGYNIA. Pistils numerous.

183. MYOSURUS. *Pet.* 5, with tubular, honey-bearing claws. *Seeds* naked. *Cal.* spurred at the base.

Ranunculus.

PENTANDRIA DIGYNIA.

128. HERNIARIA. Rupture-wort.

Linn. Gen. 121. *Juss.* 89. *Fl. Br.* 271. *Tourn. t.* 288. *Lam. t.* 180.

Nat. Ord. *Holeraceæ*, Linn. 12. *Amaranthi.* Juss. 30. *Illecebreæ.* Br. Pr. 413, Obs.

Cal. inferior, of 1 leaf, in 5 deep, acute, spreading, permanent segments, internally coloured. *Cor.* none. *Filam.* 5, awl-shaped, shorter than the calyx, opposite to its segments, with 5 intermediate, imperfect ones. *Anth.* on the former only, each of 2 round lobes. *Germen* superior, ovate. *Styles* very short. *Stigmas* pointed. *Caps.* invested with the calyx, membranous, of 1 cell, scarcely bursting, except in an irregular manner. *Seed* solitary, roundish, polished, pointed, filling the capsule.

Small plants, with branched, leafy *stems;* opposite, unequal, entire *leaves;* membranous *stipulas;* and aggregate, axillary, small, greenish *flowers.*

1. H. *glabra.* Smooth Rupture-wort.

Herbaceous. Leaves and calyx smooth.

H. glabra. *Linn. Sp. Pl.* 317. *Willd. v.* 1. 1296. *Fl. Br.* 271. *Engl. Bot. v.* 3. *t.* 206. *Fl. Dan. t.* 529.

Herniaria. *Raii Syn.* 160. *Ger. Em.* 569. *f. Dalech. Hist.* 1126. *f.*

H. n. 1552. *Hall. Hist. v.* 2. 255.

Empetron. *Trag. Hist.* 527. *f.*

Polygonum minus. *Matth. Valgr. v.* 2. 302. *f. Camer. Epit.* 690. *f.*

Millegrana. *Cord. Hist.* 98. 2. *f.*

In gravelly or sandy ground.

About the Lizard-point, Cornwall. *Ray.* Near Newmarket. *Rev. Mr. Hemsted.*

Perennial. *July, August.*

Root tapering, somewhat woody, and certainly perennial. *Stems* numerous, prostrate, much branched, leafy, round, occasionally roughish with prominent, very short, hairs. *Leaves* obovate, or elliptical, bluntish, obscurely triple-ribbed, on short stalks; the floral ones mostly alternate; all smooth on both sides. *Stipulas* lateral, between the leaves, in pairs, minute, pointed, membranous. *Fl.* small, green, in dense, somewhat leafy, clusters, either axillary, or opposite to a solitary leaf. *Cal.* edged with white. Abortive *filaments* rather the broadest. *Caps.* elliptical, pointed.

2. H. *hirsuta*. Hairy Rupture-wort.

Herbaceous. Leaves and calyx hairy.

H. hirsuta. *Linn. Sp. Pl.* 317. *Willd. v.* 1. 1297. *Fl. Br.* 272. *Engl. Bot. v.* 20. *t.* 1379. *Dill. in Raii Syn.* 161. *Bauh. Hist. v.* 3. 379. *f.*

H. n. 1553. *Hall. Hist. v.* 2. 256.

Hoary Rupture-wort. *Pet. H. Brit. t.* 10. *f.* 10.

In sandy ground, rare.

At Colney-hatch, near Barnet. *Hudson.* Preserved in Buddle's herbarium. *Dillenius.* In Cornwall. *Mr. Stackhouse.*

Perennial. *July, August.*

Differs from the last in having the *leaves* fringed with strong prominent hairs, as well as rough beneath, more or less, with similar, but shorter, hairs. The *calyx* also is hairy, and the *stem* always rough. Haller says the *flowers* are fewer in each *cluster*, and much larger in proportion to the leaf; the *bracteas* very white. Possibly he might comprehend, under his n. 1553, *H. alpina* of Villars and Willdenow, though the Swiss plant, from Mr. Davall, is really *H. hirsuta*. The late Mr. Stackhouse, who studied our two *Herniariæ* in Cornwall, was persuaded of their not being specifically distinct.

129. CHENOPODIUM. Goosefoot.

Linn. Gen. 121. *Juss.* 85. *Fl. Br.* 272. *Br. Pr.* 406. *Tourn. t.* 288. *Lam. t.* 181. *Gærtn. t.* 75.

Nat. Ord. *Holeraceæ*. Linn. 12. *Atriplices*. Juss. 29. *Chenopodeæ*. DeCand. 100. Br. Pr. 405. Two following genera the same.

Cal. inferior, of 1 leaf, concave, in 5 deep, ovate, concave, permanent segments, membranous at the edges. *Cor.* none. *Filam.* awl-shaped, opposite to the segments, and about as long. *Anth.* of 2 round lobes. *Germen* orbicular, depressed. *Styles* short. *Stigmas* obtuse. *Seed* solitary, lenticular, crustaceous, enveloped in a very thin, membranous, close *pellicle*, and covered by the permanent, 5-angled calyx.

Herbaceous, mostly annual. *Pubescence* mealy, friable, and unctuous. *Leaves* alternate, generally lobed. *Stipulas* none. *Fl.* numerous, small, green, clustered or panicled. *Seed* mostly blackish.

* *Leaves angular.*

1. Ch. *Bonus Henricus*. Mercury Goosefoot.

Leaves triangular-arrow-shaped, entire. Spikes terminal, compound, leafless.

Ch. Bonus Henricus. *Linn. Sp. Pl.* 318. *Willd. v.* 1. 1299. *Fl. Br.* 272. *Engl. Bot. v.* 15. *t.* 1033. *Curt. Lond. fasc.* 3. *t.* 17. *Hook. Scot.* 83. *Fl. Dan. t.* 579. *Bull. Fr. t.* 317.

Ch. n. 1578. *Hall. Hist. v.* 2. 266.

Blitum perenne, Bonus Henricus dictum. *Raii Syn.* 156.

Bonus Henricus. *Trag. Hist.* 317. *f. Ger. Em.* 329. *f. Brunf. Herb. v.* 1. 63. *f. Camer. Epit.* 368. *f.*

Wild Spinage. *Pet. H. Brit. t.* 7. *f.* 12.

In waste ground, and by road sides, frequent.

Perennial. *May, June.*

Root branching, fleshy. *Herb* dark green, nearly smooth. *Stems* a foot high, furrowed, ascending, leafy, each terminating in a tapering, compound, crowded cluster, or spike, of numerous green *flowers;* their stalks sometimes unctuous and mealy. *Cal.* bordered with an abrupt white membrane. *Styles* spreading, often 3. *Stam.* wanting in some flowers. *Seed* kidney-shaped.

This, our only perennial *Chenopodium,* may be eaten, when young, like spinach, and is cultivated for the table in some parts of Lincolnshire. It is insipid and mucilaginous, rather mawkish; and soon becomes tough and fibrous.

2. Ch. *urbicum.* Upright Goosefoot.

Leaves triangular, toothed. Spikes crowded, lobed, very long and straight, approaching the stem, almost leafless.

Ch. urbicum. *Linn. Sp. Pl.* 318. *Willd. v.* 1. 1299. *Fl. Br.* 273. *Engl. Bot. v.* 10. *t.* 717. *Hook. Scot.* 83.

Ch. erectum, foliis triangularibus dentatis, spicis e foliorum alis plurimis longis erectis tenuibus. *Dill. in Raii Syn.* 155.

Ch. latifolium, minùs ramosum, florum petiolis longissimis, ex foliorum alis confertim enascentibus. *Buxb. Hallens.* 69. *t.* 1, good.

Atriplex sylvestris latifolia, sive Pes anserinus. *Ger. Em.* 328? *f.*

Broad-pointed Blite. *Pet. H. Brit. t.* 8. *f.* 8.

On dunghills, and ditch bánks, by way sides.

Common in St. George's fields, Southwark; also in several parts of Norfolk, and at Corton, near Lowestoft, Suffolk.

Annual. *August, September.*

Root fibrous. *Stem* erect, not much branched, leafy, angular, furrowed, often red. *Leaves* stalked, triangular, acute, bright green, smooth, unequally and sharply toothed, a little elongated at the base, $1\frac{1}{2}$ or 2 inches in length. *Spikes* axillary, and terminal, erect, straight, lobed, and often branched, closely pressed to the stem as they advance to maturity, always shorter than the leaves. *Fl.* sessile, solitary, or aggregate, green. *Styles* 2 or 3, imperfect in some flowers. *Seed* roundish, the size of Rape-seed, being, as Mr. Curtis first remarked, 5 times as large as that of the following, by which these two species may clearly be distinguished, though they have often been confounded.

3. Ch. *rubrum*. Red Goosefoot.

Leaves triangular, somewhat rhomboid, deeply toothed and sinuated. Spikes erect, compound, leafy. Seed very minute.

Ch. rubrum. *Linn. Sp. Pl.* 318. *Willd. v.* 1. 1300. *Fl. Br.* 274. *Engl. Bot. v.* 24. *t.* 1721. *Curt. Lond. fasc.* 6. *t.* 21. *Hook. Scot.* 84. *Ehrh. Pl. Off.* 83.

Blitum Pes anserinus dictum. *Raii Syn.* 154.

Atriplex sylvestris latifolia altera. *Ger. Em.* 328. *f.*

Pes anserinus. *Fuchs. Hist.* 652. *t.* 653. *Dod. Pempt.* 616. *f. Dalech. Hist.* 542. *f.*

Sharp-pointed Blite. *Pet. H. Brit. t.* 8. *f.* 6.

β. Blito, Pes anserinus dicto, similis. *Raii Syn.* 154.

Common in waste ground, often in low muddy situations.

Annual. *August.*

Akin to the last, from which it differs in being generally more bushy, with more deeply toothed, or sinuated, *leaves*, considerably elongated at the base. The *spikes* are more spreading, and are beset with several small leaves. But the most distinguishing character, pointed out by Curtis, as well as by Ray in the variety β, consists in the comparative smallness of the *seeds*, which in *Ch. rubrum* are no bigger than grains of common sand. In exposed situations the whole herb assumes a red colour. This species and its allies are said to be poisonous to swine. Botanists have hitherto given the name of *racemi*, clusters, to the inflorescence of these plants; but it surely consists rather of compound *spikes*, in which the *flowers* are aggregate, crowded into little heads or tufts.

4. Ch. *botryodes*. Many-spiked Goosefoot.

Leaves triangular, somewhat toothed; the upper ones bluntish. Spikes erect, compound, rounded, leafy.

Ch. botryodes. *Engl. Bot. v.* 32. *t.* 2247. *Comp.* 41.

In moist sandy places, near the sea.

Near Yarmouth. *Mr. Lilly Wigg.* Between the cliff and the sea at Lowestoft.

Annual. *August, September.*

Stems spreading, or prostrate. *Leaves* very much smaller than the two last, fleshy, triangular, or hastate, not rhomboid, and very slightly toothed, smooth, frequently red, as are also the copious, compound, rounded, more or less leafy, spikes. *Cal.* tumid, obtuse. *Seed* small, black and shining.

5. Ch. *murale*. Nettle-leaved Goosefoot.

Leaves ovate, acute, many-toothed, shining. Spikes aggregate, panicled, cymose, leafless.

Ch. murale. *Linn. Sp. Pl.* 318. *Willd. v.* 1. 1301. *Fl. Br.* 274. *Engl. Bot. v.* 24. *t.* 1722. *Curt. Lond. fasc.* 6. *t.* 20. *Hook. Scot.* 84.
Ch. n. 1583. *Hall. Hist. v.* 2. 268. "Probably including also *Ch. rubrum.*" *Davall.*
Blitum Pes anserinus dictum, acutiore folio. *Raii Syn.* 154; excluding Gerarde's synonym.
Atriplex, dictus Pes anserinus, alter sive ramosior. *Bauh. Hist. v.* 2. 976. *f.* good.
Thick Shining Blite. *Pet. H. Brit. t.* 8. *f.* 5.

In waste ground, about old walls, and by way sides.
Annual. *August, September.*
Stem much branched. Whole plant fetid, of a darkish, slightly glaucous, green, sometimes purplish in the stem and branches. *Leaves* triangular-ovate, sharply and copiously toothed, the teeth rather incurved, or hooked. *Panicles* sub-axillary and mostly terminal, cymose, composed of numerous spikes or little round leafless heads, of green or glaucous, slightly powdery, *flowers*. *Seed* black, very minutely dotted, larger than in *Ch. rubrum*. The panicled cymose inflorescence decidedly distinguishes this from all the foregoing species.

6. Ch. *hybridum*. Maple-leaved Goosefoot.

Leaves heart-shaped, pointed, with broad angular teeth. Spikes aggregate, panicled, cymose, divaricated, leafless.

Ch. hybridum. *Linn. Sp. Pl.* 319. *Willd. v.* 1. 1303. *Fl. Br.* 275. *Engl. Bot. v.* 27. *t.* 1919. *Curt. Lond. fasc.* 4. *t.* 23. *Hook. Scot.* 84.
Ch. n. 1581. *Hall. Hist. v.* 2. 267.
Ch. stramonii folio. *Dill. in Raii Syn.* 154. *Vaill. Par.* 36. *t.* 7. *f.* 2.
Atriplex sylvestris, majore anguloso folio. *Barrel. Ic. t.* 540.
Maple Blite. *Pet. H. Brit. t.* 8. *f.* 7.

In waste ground that is rather moist; one of the rarer species.
In Battersea fields. *Curtis.* Near Northfleet plentifully. *Hudson.* On the banks of some watery pits beyond Ely. *Sherard.* About Colchester. *Dale.* About Edinburgh; G. Don. *Hooker.* Between Ipswich and Dedham.
Annual. *August.*
Herb bright green, smooth, fetid. *Stem* rather slender, branched and spreading. *Leaves* broad, taper-pointed, angular rather than toothed; heart-shaped, or ovate, not elongated, at the base. *Footstalks* slender. *Panicles* axillary and terminal, cymose, more slender and divaricated than the last; some of the *flowers* stalked and solitary. *Seed* large, depressed, coarsely dotted, or pitted.

7. Ch. *album.* White Goosefoot.

Leaves rhomboid-ovate, jagged, mealy; entire towards the base: upper ones oblong, entire. Seed quite smooth.

Ch. album. *Linn. Sp. Pl.* 319. *Willd. v.* 1. 1302. *Fl. Br.* 275. *Engl. Bot. v.* 24. *t.* 1723. *Curt. Lond. fasc.* 2. *t.* 15. *Hook. Scot.* 84.
Ch. n. 1579. *Hall. Hist. v.* 2. 266.
Blitum, Atriplex sylvestris dictum. *Raii Syn.* 154.
Atriplex sylvestris. *Fuchs. Hist.* 119. *f.*
A. sylvestris prima. *Camer. Epit.* 241. *f.*
Frost Blite. *Pet. H. Brit. t.* 8. *f.* 2.

β. Blitum folio subrotundo. *Dill. in Raii Syn.* 155.
Buddle's Round Blite. *Pet. H. Brit. t.* 8. *f.* 4.

γ. Chenopodium viride. *Linn. Sp. Pl.* 319. *Willd. v.* 1. 1303.
Ch. album β. *Huds.* 106.
Ch. n. 1579, β. *Hall. Hist. v.* 2. 267.
Atriplex sylvestris altera. *Ger. Em.* 326. *f.*

δ. Chenopodium foliis integris, racemosum. *Dill. in Raii Syn.* 155.
Atriplex sylvestris tertia. *Camer. Epit.* 243. *f.*
A. sylvestris foliis integris, racemosa. *Bauh. Hist. v.* 2. 973. *f.*

ε. Chenopodium crasso et obtuso oleæ folio. *Dill. in Raii Syn.* 156.

In cultivated as well as waste ground, every where.
Annual. *July, August.*

Herb mealy, with a silvery unctuous pubescence, which by age becomes dry and chaffy. *Stem* more or less branched, furrowed, sometimes reddish. *Leaves* extremely variable in shape and breadth; the lower ones generally ovate, and bluntly toothed or lobed, entire and elongated at the base; the uppermost narrower and entire. In β most of the leaves are broad, and rounded; in γ they are narrower, greener, and the *spikes* are more lax; in δ and ε the whole of the foliage is nearly entire. The *spikes* in all are interrupted, partly leafy, oblong, cylindrical, not much branched. *Seed* perfectly even, not dotted. The young herb is reported to be eatable when boiled, and is known by the name of Fat Hen in some parts of Norfolk.

8. Ch. *ficifolium.* Fig-leaved Goosefoot.

Leaves sinuated, jagged, somewhat hastate; entire towards the base: upper ones oblong, quite entire. Seed dotted.

Ch. ficifolium. *Fl. Br.* 276. *Engl. Bot. v.* 24. *t.* 1724.
Ch. viride. *Curt. Lond. fasc.* 2. *t.* 16.
Ch. serotinum. *Huds.* 106. *Sibth.* 88. *Abbot* 55.
Blitum ficûs folio. *Dill. in Raii Syn.* 155.
Atriplex sylvestris secunda. *Matth. Valgr. v.* 1. 419. *f;* according to Dillenius.
Buddle's Fig Blite. *Pet. H. Brit. t.* 8. *f.* 3.

β. Chenopodium erectum, Chrysanthemi segetum folio. *Dill. in Raii Syn.* 155. This I have not seen, nor is any description given, nor any figure quoted.

In waste ground, and on dunghills, especially about London.
In several places about London. *Buddle. Curtis.* Near Yarmouth. *Mr. D. Turner.*
Annual. *August, September.*
Of a greener hue than the preceding, with a purple stain at the base of the *footstalks.* Lower *leaves* hastate, narrower than in *Ch. album,* from which however it is best distinguished, as Mr. Curtis first ascertained, by the dotted, or reticulated, *seeds,* an all-sufficient difference.

9. Ch. *glaucum.* Oak-leaved Goosefoot.

Leaves all oblong; deeply waved at the margin; glaucous and mealy beneath. Spikes compound, leafless, lobed. Seed very minutely dotted.

Ch. glaucum. *Linn. Sp. Pl.* 320. *Willd. v.* 1. 1305. *Fl. Br.* 277. *Engl. Bot. v.* 21. *t.* 1454.
Ch. n. 1584. *Hall. Hist. v.* 2. 268.
Ch. angustifolium laciniatum minus. *Dill. in Raii Syn.* 155.
Atriplex angustifolia laciniata minor. *Bauh. Hist. v.* 2. 972. *f.* 973.
Rand's Oak Blite. *Pet. H. Brit. t.* 8. *f.* 1.

In waste ground, especially on a sandy soil.
About London. *Dillenius, and Mr. Pitchford.*
Annual. *August.*
Stems from 2 inches to 2 feet long, stout, furrowed, branched, spreading, often prostrate. *Leaves* numerous, nearly uniform; smooth, green, somewhat glaucous and purplish above; mealy and white beneath. *Spikes* interrupted, with a small leaf or two at the base only. *Cal.* obtuse, smooth. *Seed* purplish-black, very minutely dotted.

** *Leaves undivided, entire.*

10. Ch. *olidum.* Stinking Goosefoot.

Leaves ovate, somewhat rhomboid, entire. Spikes dense, crowded, leafless.

Ch. olidum. *Curt. Lond. fasc.* 5. *t.* 20. *With.* 273. *Fl. Br.* 277. *Engl. Bot. v.* 15. *t.* 1034. *Hook. Scot.* 83. *Purton v.* 3. 23.
Ch. Vulvaria. *Linn. Sp. Pl.* 321. *Huds.* 107. *Woodv. Med. Bot. t.* 145. *Bull. Fr. t.* 323.
Ch. n. 1577. *Hall. Hist. v.* 2. 266.
Blitum fœtidum, Vulvaria dictum. *Raii Syn.* 156.
Atriplex olida. *Ger. Em.* 327. *f.*
A. fœtida. *Bauh. Hist. v.* 2. 974. *f.* 975. *Moris. v.* 2. 605. *sect.* 5. *t.* 31. *f.* 6.

Garosmus. *Dod. Pempt.* 616. *f.*
Stinking Orrach. *Pet. H. Brit. t.* 7. *f.* 11.

In waste ground, especially among sand or rubbish near the sea.
Annual. *August.*
Root small. *Stems* several, branched, spreading or prostrate. Whole *herb* of a dull greyish green, covered with a greasy mealiness, which, when touched, exhales a strong, permanent, nauseous odour, like stale salt-fish. *Leaves* stalked, acute, entire, ovate, or slightly rhomboid, not an inch long. *Fl.* small, in oblong interrupted spikes. *Seed* dotted.

11. Ch. *polyspermum.* Round-leaved Goosefoot.

Leaves ovate, obtuse, entire. Stem prostrate. Clusters cymose, divaricated, leafless.

Ch. polyspermum. *Linn. Sp. Pl.* 321. *Willd. v.* 1. 1305. *Fl. Br.* 278. *Engl. Bot. v.* 21. *t.* 1480.
Blitum polyspermum. *Matth. ed. Bauh.* 358. *f.*
Allseed Blite. *Pet. H. Brit. t.* 7. *f.* 10.

On waste ground, but not common.
In Cornwall. *F. Borone.*
Annual. *July, August.*
Root tapering. *Stems* several, quite prostrate, leafy, roundish, or somewhat angular, various in length, scarcely branched. *Leaves* stalked, ovate, elliptical, or roundish, generally very obtuse, or slightly emarginate, entire, smooth, of a deep grass green. *Clusters* axillary, compound, large and spreading, without any small leaves at their subdivisions. *Seed* conspicuous, black, shining, kidney-shaped, minutely dotted, which last character cannot be seen till the *pellicle* is removed.

12. Ch. *acutifolium.* Sharp Entire-leaved Goosefoot.

Leaves ovate, acute, entire. Stem erect. Clusters spiked, compound, elongated, erect, partly leafy; lower ones somewhat cymose.

Ch. acutifolium. *Engl. Bot. v.* 21. *t.* 1481. *Comp.* 42.
Ch. polyspermum. *Curt. Lond. fasc.* 2. *t.* 17. *With.* 273. *Relh.* 102. *Sibth.* 89. *Purton v.* 3. 24. *Hook. Scot.* 83?
Ch. n. 1576. *Hall. Hist. v.* 2. 266.
Ch. Betæ folio. *Raii Syn.* 157.
Atriplex sylvestris, sive Polyspermon. *Ger. Em.* 325. *f.*
Blitum minus. *Dod. Pempt.* 617. *f.*
B. sylvestre. *Camer. Epit.* 237. *f.*
B. erectius, sive tertium Tragi. *Bauh. Hist. v.* 2. 967. *f.*

In cultivated as well as waste ground, in several parts of Great Britain.

About London not uncommon. *Curtis.*
Annual. *July, August.*
The *stem* is solitary, square, upright, though the lower branches are sometimes greatly elongated, and trail on the ground, as the accurate Mr. Purton remarks. *Leaves* ovate, sharp-pointed, entire, of a thinner substance and paler hue than the last. *Clusters* more elongated, spiked, and upright, interspersed with small leaves, though the lower ones, in strong plants, are cymose and leafless. *Calyx* spreading, as in the last, and only half covering the *seed*, which is of a reddish black, scarcely dotted, its *tunic* very discernible, being thicker than in *Ch. polyspermum*, or perhaps any other species. This is the *Ch. polyspermum* of all British botanists, nor perhaps have they met with the real one, which I have received from Cornwall only. The late Mr. Davall first suggested their being distinct species, and I think they appear to be so.

13. Ch. *maritimum.* Sea Goosefoot.

Leaves awl-shaped, semicylindrical. Flowers axillary, sessile.

Ch. maritimum. *Linn. Sp. Pl.* 321. *Willd. v.* 1. 1307. *Fl. Br.* 278. *Engl. Bot. v.* 9. *t.* 633. *Hook. Scot.* 83. *Fl. Dan. t.* 489.
Blitum, Kali minus album dictum. *Raii Syn.* 156.
Kali minus. *Ger. Em.* 535. *f. Lob. Ic.* 394. *f.*
K album. *Dod. Pempt.* 81. *f.*
Small Glasswort. *Pet. H. Brit. t.* 9. *f.* 1.

On the sea shore, in sandy as well as muddy places, abundantly.
Annual. *July, August.*
Root small, tapering. *Stems* 1 or more, erect, branched, roundish, clothed with numerous, sessile, alternate, narrow, thick, juicy, smooth *leaves*, about an inch long, salt to the taste, of a light bright green. *Fl.* several together, sessile, each with a pair of small, acute, close *bracteas*. *Seed* orbicular, black, minutely striated. The alkaline salt of this herb renders it serviceable in making glass, though supposed inferior to some kinds of *Salsola*, found in the south of Europe.

130. BETA. Beet.

Linn. Gen. 122. *Juss.* 85. *Fl. Br.* 279. *Tourn. t.* 286. *Lam. t.* 182. *Gærtn. t.* 75.

Nat. Ord. see *n.* 129.

Cal. inferior, of 1 leaf, in 5 deep, oblong, obtuse segments, fleshy at the base, permanent. *Cor.* none. *Filam.* awl-shaped, opposite to the segments of the calyx, and about as long. *Anth.* of 2 roundish lobes. *Germ.* sunk in the calyx,

lower than the receptacle of the flower, orbicular, depressed. *Styles* 2, sometimes 3, very short. *Stigmas* simple, acute. *Seed* solitary, naked, horizontal, curved, imbedded in the fleshy base of the calyx, the segments closing over it.

Root fleshy. *Herb* smooth, rather succulent, branched, spreading. *Fl.* aggregate; their segments, as well as the *stam.* and *styles*, liable to be much multiplied by culture.

1. B. *maritima.* Sea Beet.

Stems procumbent. Flowers in pairs. Segments of the calyx entire at the keel.

B. maritima. *Linn. Sp. Pl.* 322. *Willd. v.* 1. 1309. *Fl. Br.* 279. *Engl. Bot. v.* 4. *t.* 285. *Fl. Græc. v.* 3. 49. *t.* 254. *Hook. Scot.* 84. *Fl. Dan. t.* 1571.

B. sylvestris maritima. *Raii Syn.* 157.

B. sylvestris spontanea marina. *Lob. Obs.* 125.

Sea Beet. *Pet. H. Brit. t.* 8. *f.* 9.

On the sea shore, in a muddy soil.

Perennial. *August.*

Root thick and fleshy, black externally, white within. *Stems* prostrate, angular and furrowed, alternately branched, leafy, from 1 to 2 feet long, often reddish. *Leaves* deep green, flaccid, slightly succulent, stalked, ovate, veiny, wavy at the edges; radical ones much the largest, 3 or 4 inches long; those of the stem vertical, in consequence of its position. *Fl.* green, usually in pairs, rarely solitary, sessile, in the bosoms of the leaves, of which the uppermost are diminished almost to *bractæas*. Keel of the *calyx* entire, by which it differs, according to Linnæus, from *B. vulgaris.*

131. SALSOLA. Saltwort.

Linn. Gen. 122. *Juss.* 85. *Fl. Br.* 279. *Lam. t.* 181. *Gærtn. t.* 75. Kali. *Tourn. t.* 128.

Nat. Ord. see *n.* 129.

Cal. inferior, of 1 leaf, in 5 deep, rounded, permanent segments. *Cor.* none. *Filam.* awl-shaped, opposite to the segments of the calyx, and about as long. *Anth.* roundish, 2-lobed. *Germen* globose. *Styles* 2 or 3, combined at the base. *Stigmas* recurved. *Caps.* imbedded in the fleshy base of the calyx, of 1 cell, horny, not bursting. *Seed* solitary, turbinate, large, with a spiral, horizontal, very large *embryo.*

Annual or perennial herbs, rarely shrubs, with branched, rigid *stems*, and narrow, simple, sometimes spinous, *leaves*. *Fl.* axillary, sessile, solitary or aggregate. *Cal.* often variously dilated, and coloured.

1. S. *Kali.* Prickly Saltwort.

Herbaceous and decumbent. Leaves awl-shaped, spinous-pointed, rough. Calyx with a dilated margin.

S. Kali. *Linn. Sp. Pl.* 322. *Willd. v.* 1. 1310. *Fl. Br.* 280. *Engl. Bot. v.* 9. *t.* 634. *Woodv. Med. Bot. t.* 143. *Hook. Scot.* 85. *Fl. Dan. t.* 818.

Kali spinosum cochleatum. *Raii Syn.* 159.

Tragum. *Matth. Valgr. v.* 2. 382. *f. Camer. Epit.* 779. *f.*

On the sandy sea coast frequent.

Annual. *July.*

Stem very bushy, armed in every part with rigid, prominent, channelled, spinous *leaves*, which are a little dilated, membranous, and notched, at the base. *Fl.* solitary, each with 3 leaf-like *bracteas*. *Cal.* dilated, membranous and reddish, each segment with a small erect leafy appendage at the inside, converging over the fruit. *Caps.* turbinate, winged with the permanent rigid calyx, and filled with the spiral *seed*.—Used, like many others of its genus, to furnish alkaline salt for the manufacture of glass.

2. S. *fruticosa.* Shrubby Saltwort.

Erect, shrubby. Leaves semicylindrical, bluntish, without spines.

S. fruticosa. *Linn. Sp. Pl.* 324. *Willd. v.* 1. 1316. *Fl. Br.* 280. *Engl. Bot. v.* 9. *t.* 635. *Fl. Græc. v.* 3. 50. *t.* 255.

Blitum fruticosum maritimum, Vermicularis frutex dictum. *Raii Syn.* 156; *excluding the references to C. Bauhin and Gerarde.*

Cali species, sive Vermicularis marina arborescens. *Bauh. Hist. v.* 3. 704. *f.*

Chamæpitys vermiculata. *Lob. Ic.* 381. *f.*

Ch. prima Dioscoridis. *Dalech. Hist.* 1160. *f.*

On the sea coast, but not common.

First found on the Norfolk coast, by the celebrated Sir Thomas Brown, M.D. according to Ray, who subsequently noticed it himself on Portland island, and the coast of Dorsetshire. Lobel met with this plant on the islands, called Holms, in the Severn. Hudson gathered it in Devonshire and Cornwall; Mr. Woodward at Southwold, Suffolk; and Mr. Lambert at Weymouth. It is unknown in the north.

Shrub. *July, August.*

Stem a yard high, round, with many upright leafy branches. *Leaves*

alternate, sessile, smooth, rather glaucous, fleshy, about half an inch long, evergreen. *Fl.* green, with yellow *anthers*. *Bracteas* concave, membranous, small, 3 under each flower. I have never observed the *calyx* of this species in fruit, nor the *capsule*. The *seed* is black, rather kidney-shaped, with a less convoluted *embryo* than the foregoing.

This plant is not unworthy of a place in gardens or shrubberies, where it is evergreen and tolerably hardy, lasting without care for many years. The *leaves* contain some alkaline salt, and have an herbaceous, rather acrid, taste.

132. ULMUS. Elm.

Linn. Gen. 123. *Juss.* 408. *Fl. Br.* 281. *Tourn. t.* 372. *Lam. t.* 185. *Gærtn. t.* 49.

Nat. Ord. *Scabridæ*. Linn. 53. *Amentaceæ*. Juss. 99.

Cal. inferior, of 1 leaf, turbinate, wrinkled, permanent; the limb in 5, in some species but 4, in others 6, or more, upright segments, coloured on the inner side. *Cor.* none. *Filam.* as many as the segments of the calyx, and twice as long, inserted into the tube opposite to each segment. *Anth.* erect, short, with 4 furrows, and 2 cells, bursting lengthwise externally. *Germen* superior, elliptic-oblong, compressed, cloven at the summit. *Styles* 2, terminal, spreading, shorter than the calyx, finally inflexed. *Stigmas* along the inner edge, downy, permanent. *Caps.* membranous, compressed, orbicular or somewhat oblong, with a notch at the extremity, of 1 cell, not bursting. *Seed* solitary, central, roundish, slightly compressed.

Long-lived *trees*, with hard *wood*, rugged *bark*, and zigzag slender *branches*, sometimes corky. *Leaves* alternate, stalked, deciduous, in general serrated and harsh, unequal at the base. *Stipulas* oblong, pale, deciduous. *Fl.* earlier than the leaves, tufted, copious, dark red. *Caps.* veiny, pale, chaffy and light, serving as a wing to the *seed*, which is very often imperfect.

Linnæus confounded all our Elms under his *campestris*. They have since been investigated with some attention in England, by taking specimens at different seasons from the same individual tree, as has been done still more extensively with our Willows. Both genera require the same accurate study in Scotland. Of the species of Scottish Elms we have no certain knowledge. See *Hook. Scot.*

1. U. *campestris*. Common Small-leaved Elm.

Leaves doubly serrated, rough. Flowers nearly sessile, four-cleft. Capsule oblong, deeply cloven, naked.

U. campestris. *Linn. Sp. Pl.* 327. *Fl. Suec. ed.* 2. 81? *Willd. v.* 1. 1324. *Fl. Br.* 281. *Engl. Bot. v.* 27. *t.* 1886. *Camer. Epit.* 70, *no figure.*

U. n. 1586 *δ*. *Hall. Hist. v.* 2. 269. In Reynier's Swiss herbarium.

U. minor, folio angusto scabro. *Goodyer in Ger. Em.* 1480. *f. Raii Syn.* 469.

Ulmus. *Dod. Pempt.* 837. *f.*

In woods and hedges, chiefly in the southern parts of England.

In the New Forest, Hampshire. *Mr. Goodyer.* In Sussex, frequent. *Mr. Borrer.* The most common Norfolk species.

Tree. *March, or April.*

Trunk rather crooked, with a rugged bark, and spreading, round, zigzag, brown, leafy *branches*. *Leaves* about 2 inches long, and 1 broad in the middle, doubly serrated, contracted towards each end; unequal at the base, as in every known species, even the *pumila*; dark green, and very rough to the touch, on the upper side; paler and smoother beneath, with a prominent midrib, and several transverse parallel ribs, which have each a small tuft of downy hairs at the origin. *Fl.* much earlier than the foliage, and from inferior buds, in numerous, dense, round, dull-purple tufts, each flower almost sessile, with an oblong fringed *bractea* at its base. *Limb* of the *calyx* in 4 oblong obtuse segments, of a light brownish red, minutely fringed. *Stam.* 4, equal, with dark-purple *anthers*. *Stigmas* a downy line along the upper edge of each style, which line is never elongated, but becomes incurved, from the great dilatation of the opposite margin, running down into the bordered, oblong-wedgeshaped, or nearly obovate, flat, pale brown, somewhat shining, *capsule*, which has a deep sinus at the extremity, bordered with the *styles*, and extending towards the *seed*.

The wood is hard and tough, particularly durable in wet situations. That of the present species is greatly preferred in Norfolk to any other, and sells for nearly double the price, serving more especially for the naves of wheels. In other parts of England, and particularly about London, the more common kinds are used for coffins.

Mr. E. Forster first hinted, what I have now no doubt of, that the above synonym of Gerarde and Ray belongs to this; which by what is said in the *Fl. Suec.* and the synonym of Dodonæus, should seem to be the Swedish species, but I have no specimens to determine that point.

2. U. *suberosa*. Common Cork-barked Elm.

Leaves pointed, rough, doubly and sharply serrated. Flowers stalked, four- or five-cleft. Capsule almost orbicular, deeply cloven, naked. Branches spreading; their bark corky.

U. suberosa. *Ehrh. Arb.* 142. *Willd. v.* 1. 1324. *Baumz.* 391. *Engl. Bot. v.* 31. *t.* 2161. *Comp.* 42.
U. campestris. *Woodv. Med. Bot. t.* 197.
U. campestris et Theophrasti. *Duham. Arb. v.* 2. 367. *t.* 108.
Ulmus. *Matth. Valgr. v.* 1. 130. *f.*
U. vulgatissima, folio lato scabro. *Goodyer in Ger. Em.* 1480. *f.* *Raii Syn.* 468.
U. montana. *Camer. Epit.* 70, *upper figure.*
Common Elm Tree. *Hunt. Evel. Sylva tab. at p.* 119.

In hedges, in all parts of England. *Goodyer and Ray.*
Tree. *March.*
Taller and more spreading than the foregoing. *Bark* when a year old covered with very fine dense cork, in deep fissures; whence the name first given by Mœnch, and adopted by Ehrhart. *Leaves* rough on both sides, more rounded, and twice or thrice as large, as in our *U. campestris*, very unequal at the base, strongly, sharply, and doubly serrated; hairy beneath, with dense broad tufts at the origin of the transverse ribs. *Fl.* much earlier than the foliage, stalked, reddish, with 4 or 5 rounded segments, and as many *stamens* with dull-purple *anthers*. *Caps.* nearly orbicular, with a deep sinus reaching to the place of the *seed*.
Of the value, or particular qualities, of the wood of this Elm, I have no information, except that it is far inferior to the former. There are various cultivated varieties, raised from seed, which Mr. Crowe, who had closely attended to the subject, always traced to this species. It seems to be Miller's *U. sativa, n.* 3, whose error in quoting *U. minor, folio angusto scabro*, of Goodyer in Gerarde, led to the same misapplication of that writer's synonyms, in *Fl. Br.* 281, and *Engl. Bot.* 1886 and 2161. Miller, moreover, thought our *suberosa* not a native of England.

3. U. *major*. Dutch Cork-barked Elm.

Leaves rough, unequally and rather bluntly serrated. Flowers nearly sessile, four-cleft. Capsule obovate, slightly cloven, naked. Branches drooping; their bark corky.

U. major. *Engl. Bot. v.* 36. *t.* 2542. *Comp.* 43.
U. hollandica. *Mill. Dict. ed.* 8. *n.* 5.
U. major hollandica, angustis et magis acuminatis samaris, folio latissimo scabro. *Pluk. Alm.* 393.

U. major, ampliore folio, ramos extra se spargens. *Duham. Arb. v.* 2. 368. *t.* 109.

Tilia mas. *Matth. Valgr. v.* 1. 158. *f. Camer. Epit.* 92. *f.*

In hedges, a doubtful native.

In the neighbourhood of London. *Mr. E. Forster.*

Tree. *March.*

The *branches* spread widely, in a drooping manner, and their bark is rugged, much more corky than even the foregoing. *Leaves* on short thick stalks, larger, and more bluntly serrated, than the last; rough on both sides, especially beneath, but the hairy tufts, at the origin of each transverse rib, are very small. Segments of the *calyx* short and rounded. *Stam.* 4. *Capsule* obovate, with a very small rounded sinus, not reaching half so far as the *seed.*

Miller says this Elm was brought from Holland in King William's reign, and being recommended for its quick growth, was a fashionable tree for hedges in gardens, but afterwards fell into disuse. He adds that "the wood is good for nothing, so it is almost banished this country."

4. U. *montana.* Broad-leaved Elm. Wych Hasel.

Leaves pointed, rough, doubly serrated. Flowers stalked, loosely tufted, five- or six-cleft. Capsule somewhat orbicular, slightly cloven, naked. Branches drooping; their bark even.

U. montana. *Bauh. Pin.* 427. *With.* 279. *Fl. Br.* 282. *Engl. Bot. v.* 27. *t.* 1887. *Camer. Epit.* 70, *lower figure.*

U. glabra. *Huds. ed.* 1. 95.

U. effusa. *Sibth.* 87. *Abbot* 55.

U. nuda. *Ehrh. Arb.* 62.

U. campestris. *Willd. Sp. Pl. v.* 1. 1324. *Fl. Dan. t.* 632. *Huds.* 109, *γ. Lightf.* 1094, *variety.*

U. n. 1586 ζ. *Hall. Hist. v.* 2. 269. In Reynier's Swiss herbarium.

U. folio latissimo scabro. *Goodyer in Ger. Em.* 1481. *f. Raii Syn.* 469.

In woods and hedges, frequent. The most common Elm in Scotland, according to Lightfoot.

Tree. *March, April.*

A large spreading tree, of quicker growth than *U. campestris,* and the wood is consequently far inferior in hardness and compactness, more liable to split. The *branches* are, in some individuals, quite pendulous, like the Weeping Willow. Their *bark* is even; downy in a young state. *Leaves* larger than any of the foregoing, broadly elliptical, with a longer, copiously serrated, point; rough on the upper surface with minute, callous, bristly tubercles, but less harsh than most of the preceding; the under surface downy and paler, with straight, parallel, transverse ribs, co-

piously hairy at their origins and subdivisions. *Fl.* rather larger and paler, in looser tufts, than most of the species; each in 5, 6, or 7, oblong acute segments, and as many broad, rather heart-shaped, dark-purple *anthers*. *Capsule* broadly obovate, or elliptical and almost orbicular, with a shallow notch at the end, not extending half way to the *seed*. Gerarde's figure represents the *fruit* well, as to this last very material character, but rather too narrow and elliptical in its outline.

This appears to be one of the most general species of Elm throughout Europe, and is certainly what the older writers distinguished by the epithet of *montana*, from our first species, their *campestris*. It is sometimes called the Hertfordshire Elm, being very frequent and luxuriant in that county. The large hop-like *fruit* is abundant, and very conspicuous, in May or June, and the *seeds* appear to be usually perfected.

U. ciliata, Ehrh. Arb. 72, a native of Hanover, not yet observed in Britain, has *leaves* most resembling *U. montana*, but quite smooth on the upper side. Its *capsule* is deeply cloven, strongly fringed with coarse dense hairs.

5. U. *glabra*. Smooth-leaved, or Wych Elm.

Leaves elliptic-oblong, doubly serrated, smooth. Flowers nearly sessile, five-cleft. Fruit obovate, naked, deeply cloven.

U. glabra. *Mill. Dict. ed.* 8. *n.* 4. *Cullum* 97. *Engl. Bot. v.* 32. *t.* 2248. *Comp.* 43.

U. montana β. *Fl. Br.* 282. *Hull ed.* 2. 75.

U. folio glabro. *Ger. Em.* 1481. *f. Raii Syn.* 469.

U. campestris var. 3. *With.* 279.

In woods and hedges.

Between Rumford and Stubbers, Essex. *Goodyer*. The most common Elm in some parts of that county. *Mr. E. Forster*.

Tree. *March*.

A tall elegant tree, with spreading, rather drooping, smooth, blackish *branches*, scarcely downy in their earliest stage of growth. *Leaves* smaller than any of the preceding, except *campestris*, as well as more oblong, strongly serrated, very unequal at the base, not elongated at the extremity; their substance firm, or rather rigid; the surface of both sides very smooth to the touch, nor are there any hairs beneath, except the axillary pubescence of the ribs, which often forms a narrow downy line along the midrib. *Fl.* nearly sessile, with 5 short, bluntish, fringed segments, and as many longish *stamens*, whose *anthers* are roundish-heart-shaped. *Capsule* smaller than most other species, obovate, cloven down to the *seed*, smooth, often reddish. Goodyer reports that the wood is preferred to that of his first species, our *suberosa*, for the naves of cart-wheels; but he was not acquainted with the superior quality of our *campestris*, or Norfolk Elm.

133. CUSCUTA. Dodder.

Linn. Gen. 66. *Juss.* 135. *Fl. Br.* 282. *Tourn. t.* 422. *Lam. t.* 88. *Gærtn. t.* 62.

Nat. Ord. *Campanaceæ.* Linn. 29? Allied to *Convolvuli.* Juss. 43. *Convolvulaceæ; embryo destitute of cotyledons.* Br. Pr. 491.

Cal. inferior, of 1 leaf, cup-shaped, in 5, sometimes only 4, broad, more or less deep, permanent segments; the base fleshy. *Cor.* of 1 petal; tube elliptical or cylindrical; limb in 5, sometimes 4, deep, spreading, equal segments, which, in some species, are accompanied at the base with as many inflexed scales, alternate with the segments, closing the throat. *Filam.* 5, or 4, alternate with the segments, and above each scale, if present, in the throat of the corolla, awl-shaped, erect, equal, shorter than the limb. *Anth.* roundish, 2-lobed. *Germ.* superior, roundish. *Styles* 2, rarely solitary, sometimes 3, shorter than the corolla, spreading. *Stigm.* either simple or capitate. *Caps.* membranous, invested with the faded corolla, elliptical, of 2 cells, bursting all round towards the base. *Seeds* 2 in each cell, large, obovate, erect; the *embryo* spiral, making about 3 horizontal convolutions (according to Gærtner) round the central, globose, fleshy *albumen*, and perfectly simple, or monocotyledonous, as observed by Linnæus, *Sp. Pl.* 180, and confirmed by various eminent botanists.

Parasitical leafless herbs, with a twining *stem*, alternately branched; and sessile lateral *heads*, or *spikes*, of pale *flowers*, each *flower* accompanied by a *bractea*.

1. C. *europæa.* Greater Dodder.

Flowers nearly sessile. Corolla without scales. Stigmas acute.

C. europæa. *Linn. Sp. Pl.* 180. *Willd. v.* 1, 702. *Fl. Br.* 282. *Engl. Bot. v.* 6. *t.* 378. *Gent. Mag. v.* 19. 349. *t.* 351. *Hook. Lond. t.* 67. *Scot.* 86. *Fl. Dan. t.* 199. *Ehrh. Pl. Off.* 362.

C. n. 654, major. *Hall. Hist. v.* 1. 291.

C. major. *Bauh. Pin.* 209.

Cuscuta. *Matth. Valgr. v.* 2. 616. *f. Camer. Epit.* 984. *f. Ger. Em.* 577. *f.*

Cassutha. *Fuchs. Hist.* 347. *t.* 348. *Dod. Pempt.* 554. *f. Dalech. Hist.* 1683. *f.*

Androsaces, vulgo Cuscuta. *Trag. Hist.* 810. *f.*

On Thistles, Nettles, Flax, and other annual or biennial herbs, but rare.

Near Aberdeen. *Mr. Alexander Smith.* In Cambridgeshire. *Rev. J. Hemsted.* At Shipston-upon-Stour, Worcestershire. *Rev. Dr. Jones.* Found near Newbury, Berkshire, by Mr. Bicheno; and at Musselburgh, near Edinburgh, by Mr. Neill. *Hooker.*

Annual. *August, September.*

Root simple, small and slender, soon obliterated. *Stem* thread-shaped, red, copiously branched, twining from right to left, round the stems of other plants, to the height of 2 or 3 feet, and adhering, at various distances, by rows of short downy radicles, its only source of nourishment after the original root is gone. *Leaves* none. *Fl.* in dense round heads, whitish, scarcely stalked, usually 5-cleft and pentandrous; and in all the British specimens I have seen, as well as in Ehrhart's German ones, destitute of scales in the throat of the tube; which Dr. Hooker confirms, in contradiction to the opinion of our learned friend Mr. Brown, *Prodr.* 491, who possibly examined specimens of *C. Epithymum*, some of which, as in Dickson's *H. Sicc. fasc.* 15. 6, often approach the *europæa* in size, and were taken for such by that excellent botanist. The *calyx* is reddish. *Tube* of the *corolla* bell-shaped, and subsequently globose; limb short, contracted as it withers, permanent, as well as the *stamens*. *Germen* globular. *Styles* short, spreading, reddish, with acute *stigmas*. *Capsule* nearly globular, pellucid, reticulated, invested with the dry corolla.

2. C. *Epithymum.* Lesser Dodder.

Flowers sessile, with a notched scale at the base of each stamen. Stigmas acute.

C. Epithymum. *Linn. Syst. Veg. ed.* 13. 140. *Fl. Br.* 283. *Engl. Bot. at p.* 378. *Dicks. H. Sicc. fasc.* 15. 5. *Abbot* 36. *Hook. Scot.* 86. *Fl. Dan. t.* 427.

C. europæa. *Engl. Bot. v.* 1. *t.* 55. *Linn. Sp. Pl.* 180 *β*. *Willd. v.* 1. 702 *β*. *Huds.* 104. *Sibth.* 63. *Dicks. H. Sicc. fasc.* 15. 6.

C. n. 654, minor. *Hall. Hist. v.* 1. 291.

C. major. *Raii Syn.* 281.

Epithymum. *Matth. Valgr. v.* 2. 614. *f. Camer. Epit.* 983. *f. Dalech. Hist.* 1682. *f. Ger. Em.* 578.

On Common Heath, Furze, Thyme, and other small shrubby plants, not unfrequently.

Perennial? *August.*

Smaller than the preceding, though various in that respect, having generally almost capillary *stems*, very much twisted and entangled, of a deep red. *Fl.* most frequently 4-cleft and tetrandrous. *Cal.* red, acute. *Cor.* white, with a short, funnel-shaped tube. *Stam.* with an inflexed, crescent-shaped, finely notched scale, close to the base of each. *Styles* rather elongated, spreading, with simple *stigmas*.

This is presumed to have been the only species of *Cuscuta* known to Ray, Hudson, and other British botanists, till Mr. A. Smith met with the true *europæa* in Scotland.

134. SWERTIA. Felwort.

Linn. Gen. 125. *Juss.* 142. *Fl. Br.* 284. *Lam. t.* 109. *Gærtn. t.* 114.

Nat. Ord. *Rotaceæ.* Linn. 20. *Gentianæ.* Juss. 46. *N.* 135 the same. See *Grammar* 106.

Cal. inferior, of 1 leaf, flat, permanent, in 5 deep, lanceolate segments. *Cor.* of 1 petal, wheel-shaped; limb nearly flat, in 5 deep, lanceolate divisions, larger than the calyx. Nectaries ten, consisting of 2 small depressions, in the base of each division of the corolla, on the upper side, encompassed with short upright bristles. *Filam.* awl-shaped, rather spreading, shorter than the corolla. *Anth.* heart-shaped, deflexed. *Germen* superior, ovate-oblong, cloven at the summit. *Styles* very short, distant. *Stigmas* obtuse. *Caps.* ovate, acute at each end, of 2 valves and 1 cell. *Seeds* numerous, small, roundish, compressed, bordered, attached, as Gærtner remarks, to the edges of the valves only.

Herbaceous, smooth, very bitter, nearly allied to *Gentiana*, but differing in the peculiar *nectaries*, as well as the disposition of the *seeds*. *Leaves* opposite, undivided and entire. *Fl.* blueish, numerous.

†1. S. *perennis*. Marsh Felwort, or Swertia.

Flowers five-cleft. Radical leaves ovate.

S. perennis. *Linn. Sp. Pl.* 328. *Willd. v.* 1. 1329. *Fl. Br.* 284. *Engl. Bot. v.* 21. *t.* 1441. *Jacq. Austr. t.* 243.

Gentiana n. 636. *Hall. Hist. v.* 1. 282.

G. palustris latifolia, flore punctato. *Bauh. Pin.* 188. *Scheuchz. It. Alp.* 6. 456. *Moris. v.* 3. 482. *sect.* 12. *t.* 5. *f.* 11.

G. punctata Pennei. *Clus. Pann.* 290. *f.* 292.

G. duodecima, punctato flore. *Clus. Hist. v.* 1. 316. *f.*

G. Pennei minor. *Ger. Em.* 433. *f.*

G. cærulea punctata Pennæi. *Barrel. Ic. t.* 91.

G. corollarum laciniis nectario gemino notatis. *Le Monnier Obs.* 154.

Alisma Tossani Caroli. *Bauh. Hist. v.* 3. 519. *f.*

In watery alpine meadows.

Found in Wales by Dr. Richardson. *Huds.* Some mistake is to be suspected, as no person has confirmed this discovery, and so fine a plant could scarcely be overlooked.

Perennial. *August.*

Root of several long, cylindrical, whitish, intensely bitter fibres. *Herb* quite smooth, bitter. *Stem* erect, a foot or more in height, square; leafy and simple below; panicled above. *Leaves* about the base of the stem, opposite, stalked, ovate, acute, $1\frac{1}{2}$ or 2 inches long. *Panicle* of about a dozen light purplish *flowers*, on opposite angular stalks, with a pair of elliptic-oblong *bracteas* at their origin. *Cal.* purplish. *Cor.* an inch wide, with greenish *nectaries*. *Germen* often abortive. *From Swiss specimens.*

135. GENTIANA. Gentian.

Linn. Gen. 126. *Juss.* 141. *Fl. Br.* 284. *Tourn. t.* 40. *Lam. t.* 109. *Gærtn. t.* 114.

Nat. Ord. see *n.* 134.

Cal. inferior, of 1 leaf, in 5, sometimes but 4, oblong, acute, permanent segments. *Cor.* of 1 petal; tubular in the lower part; limb more or less spreading, in 5, sometimes but 4, deep, equal segments, withering, destitute of nectariferous pores. *Filam.* as many as the segments, and alternate therewith, inserted into the tube, and not protruding beyond it. *Anth.* incumbent, oblong, sometimes combined. *Germen* oblong, nearly cylindrical, pointed. *Styles* short, erect, sometimes combined. *Stigmas* flat, ovate. *Caps.* oblong, or elliptical, nearly cylindrical, pointed, slightly cloven, of 2 valves and 1 cell. *Seeds* numerous, small, compressed, inserted into the inflexed margins of the valves.

Herbaceous, smooth, very bitter, extremely various in size. *Leaves* opposite, undivided, entire. *Fl.* panicled, whorled, or solitary, scentless, blue, purplish, or yellow, often dotted. *Corolla* remarkably differently formed in different species; in some wheel-shaped, but mostly funnel-shaped, or tubular; sometimes bearded at the mouth, or fringed at the edges. *Style* apparently simple, though subsequently divided. *Stigmas* always 2.

1. G. *Pneumonanthe.* Marsh Gentian. Calathian Violet.

Corolla bell-shaped, five-cleft. Flowers stalked. Leaves linear.

G. Pneumonanthe. *Linn. Sp. Pl.* 330. *Willd. v.* 1. 1336. *Fl. Br.* 285. *Engl. Bot. v.* 1. *t.* 20. *Fl. Dan. t.* 269. *Ehrh. Herb.* 103. *Pl. Off.* 353.

G. n. 641. *Hall. Hist. v.* 1. 285.

G. palustris angustifolia. *Bauh. Pin.* 188. *Raii Syn.* 274.
G. quarta species. *Clus. Hist. v.* 1. 313. *f.*
G. minima. *Camer. Epit.* 418. *f.*
Pneumonanthe. *Cord. Hist.* 162. 2. *f.* *Ger. Em.* 438. *f.* *Lob. Ic.* 309. *f.* *Barrel Ic.* 122. *f.* 1.
Κυανη. *Renealm. Spec.* 69. *t.* 68.

On moist turfy heaths.
On several boggy heaths in Norfolk, and especially in the northern counties.
Perennial. *August, September.*
Root of many long, simple, tapering, tawny fibres. *Stems* simple, square, ascending, leafy, from 4 to 10 inches high. *Leaves* sessile, numerous, deep green, single-ribbed, an inch or more in length, linear, or sometimes elliptic-lanceolate, more or less obtuse. *Fl.* large and handsome, erect, terminal and axillary, slightly stalked, rarely more than 1 or 2 on each stem. Tube of the *calyx* membranous between the oblong acute segments, which are about equal to it in length. *Cor.* bell-shaped, or rather funnel-shaped, of a deep but vivid blue, with 5 prominent, pale greenish plaits; the limb in 5 acute lobes, with 1 or 2 small, intermediate, unequal teeth. *Anth.* pale yellow, combined, till separated by the swelling *germen.* *Styles* recurved. Luxuriant plants, after a wet spring, bear, as Dr. Sutton observed, 5, 6 or 7, *flowers* on each stem. In that case the lower ones are sometimes opposite, as in the Siberian specimen from which Linnæus took his, rather negligent, specific character, "*corollis oppositis.*"

* 2. G. *acaulis.* Dwarf Gentian.

Flower solitary, five-cleft, bell-shaped, about as long as the quadrangular stem.

G. acaulis. *Linn. Sp. Pl.* 330. *Willd. v.* 1. 1340. *Sims & König, Ann. of Bot. v.* 2. 196. *Turn. & Dillw. Bot. Guide* 504. *Engl. Bot. v.* 23. *t.* 1594. *Comp.* 43. *Curt. Mag. t.* 52. *Jacq. Austr. t.* 135.
G. angustifolia. *Villars Dauph. v.* 2. 526.
G. alpina. *Schleich. Cat.* 56. *Villars Dauph. v.* 2. 526. *t.* 10, bad.
G. n. 642. *Hall. Hist. v.* 1. 285.
G. vel Gentianella major verna. *Clus. Hist. v.* 1. 314. *f.*
Gentianella verna major. *Ger. Em.* 436. *f.* *Clus. Pann.* 284. *t.* 285.
G. minima latifolia. *Dalech. Hist.* 828. *f.*
G. helvetica. *Lob. Ic.* 310. *f.*
Θυλαχιτις. *Renealm. Spec.* 70. *t.* 68.

On mountains, a very doubtful native.
Near Haverford West, South Wales. *Mons. de St. Amans.*
Perennial. *June, July.*
Root fleshy, branching, crowned with many rose-like tufts, of ovate,

or elliptic-lanceolate, ribbed, acute *leaves*, varying much in size. *Stems* solitary from the centre of each tuft, generally very short, and densely leafy, single-flowered. *Fl.* large, often 2 inches long, exquisitely beautiful, of a rich blue in the limb, paler in the tube, which is dotted internally with black. Between each pair of the larger segments is an intermediate one, generally notched, very variable in magnitude. The *anthers* are united, as in the last. *G. angustifolia* and *G. alpina* of Villars are very slight varieties. The latter is exactly represented by our figure in *Engl. Bot.*

3. G. *verna*. Spring Gentian.

Corolla five-cleft, salver-shaped, crenate; segments auricled at the base. Leaves crowded, ovate.

G. verna. *Linn. Sp. Pl.* 331. *Willd. v.* 1. 1342. *Fl. Br.* 285. *Engl. Bot. v.* 7. *t.* 493. *Sym. Syn.* 64. *Curt. Mag. t.* 491. *Dicks. Dr. Pl.* 59. *Don H. Br.* 28.

G. bavarica. *Jacq. Obs. fasc.* 3. 19. *t.* 71.

G. n. 644. *Hall. Hist. v.* 1. 286.

G. sexta. *Clus. Hist. v.* 1. 315. *f.*

Gentianella alpina verna. *Ger. Em.* 436. *f. How Phyt.* 46. *Merr. Pin.* 45. *Dill. Indic. Pl. Dub. in Raii Syn.*

G. minor verna cærulea, stellato flore. *Barrel. Ic. t.* 109. *f.* 1.

Ηρικαλη. *Renealm. Spec.* 75. *t.* 68.

In barren mountainous situations, but rare.

On mountains betwixt Gort and Galloway. *Mr. Heaton.* In Teesdale forest, Durham, abundantly. *Rev. J. Harriman*, and *Mr. Oliver.*

Perennial. *April.*

Roots slender, branched and creeping, each branch terminating in a tuft of crowded, ovate, acute *leaves*, which are half an inch long, and a central, short, simple, angular, leafy *stem*, bearing a solitary *flower*, of a most vivid blue. *Cal.* with prominent angles and sharp teeth, shorter than the *tube* of the *corolla*, which is whitish. The *limb* is horizontal, about an inch wide, each segment rounded, sometimes acute, a little wavy, or notched, with 2 small lobes, erect or spreading, at its base. *Anth.* distinct, within the tube. *Styles* scarcely separate. *Stigmas* close together, crescent-shaped, fringed. The *leaves* are occasionally obtuse, approaching those of *G. bavarica*, which probably is not a distinct species. None of the above synonyms can be marked as definite varieties; far less as permanent ones. This Gentian is more difficult of culture than the last.

4. G. *nivalis*. Small Alpine Gentian.

Corolla funnel-shaped, five-cleft, with notched intermediate

segments. Angles of the calyx even, acute. Stem bearing several flowers.

G. nivalis. *Linn. Sp. Pl.* 322. *Willd. v.* 1. 1344. *Fl. Br.* 286. *Engl. Bot. v.* 13. *t.* 896. *Dicks. Tr. of Linn. Soc. v.* 2. 290. *Hook. Scot.* 86. *Fl. Dan. t.* 17.

G. n. 647. *Hall. Hist. v.* 1. 287. *t.* 17. G. omnium minima.

G. n. 5. *Hall. Enum.* 475. *t.* 7.

G. undecima minima. *Clus. Pann.* 291. *f. Hist. v.* 1. 316. *f.*

G. minima. *Lob. Ic.* 310. *f.*

Gentianella. *Tillands. Ic.* 46. *f.*

G. fugax minor. *Ger. Em.* 437, *the figure at least.*

On the loftiest mountains of Scotland.

On Ben Lawers, near the summit. *Mr. Dickson* and *Mr. G. Don.*

Annual. *August.*

Root simple, slender. *Stem* erect, more or less branched, bearing from 2 to 10 or 12 flowers, leafy, square; when very weak, simple and single-flowered. *Leaves* small, elliptical, acute, often rounded. *Fl.* solitary at the end of each branch, scarcely an inch long. *Cal.* with 5 straight, even, acute, purplish angles, and as many awl-shaped teeth. *Cor.* with a greenish tube, longer than the calyx, and a small, spreading, bright blue limb, whose intermediate segments are inversely heart-shaped, quite distinct from the larger ones, which are simple and undivided. *Styles* united.

5. G. *Amarella.* Autumnal Gentian.

Corolla salver-shaped, five-cleft; bearded in the throat. Segments of the calyx nearly equal. Stem flowering from top to bottom, with short axillary branches.

G. Amarella. *Linn. Sp. Pl.* 334. *Willd. v.* 1. 1347. *Fl. Br.* 287. *Engl. Bot. v.* 4. *t.* 236. *Dicks. Dr. Pl.* 5. *Hook. Lond. t.* 33. *Scot.* 86. *Fl. Dan. t.* 328.

G. fugax Clusii. *Barrel. Ic. t.* 510. *f.* 2.

Gentianella fugax autumnalis elatior, centaurii minoris foliis. *Raii Syn.* 275.

G. species quibusdam, an Cordo Pneumonanthe, aut Gentiana fugax altera Clusii. *Bauh. Hist. v.* 3. 526. *f.* 1, good.

β. G. fugax verna seu præcox. *Raii Syn. ed.* 2. 156. *ed.* 3. 275.

In limestone and chalky pastures.

In pastures on St. Vincent's rocks, Bristol; also above the rocks opposite to Matlock bath, plentifully; and in various parts of England and Scotland, as recorded by Ray, Hooker, and others.

Annual. *August, September.* β from *April to June.*

Root tapering, twisted, yellowish. Whole plant intensely bitter. *Stem* square, erect, leafy, purplish, usually from 6 to 12 inches high, with opposite, axillary, many-flowered, leafy, but rather short, *branches*, rendering the whole plant panicled, and nearly cylindrical. *Leaves* dark green, sessile, ovate, 3-ribbed, mostly

acute; the lower ones stalked, and rather spatulate. *Fl.* erect, barely an inch long, with a whitish cylindrical tube, twice as long as the spreading, deeply 5-cleft, acute, purplish-blue limb, which has no intermediate segments, but the mouth of the tube is crowned with a fine erect purplish fringe, rather shorter than the limb, and rising much above the *stamens*. The *calyx* has a turbinate, 5-angled, pale-green tube, about as long as its 5 purplish, lanceolate, acute, erect, smooth-edged segments, which, though uniform, are often a little unequal in size, and reach somewhat beyond the middle of the tube of the corolla. The *limb* of the latter has occasionally but 4, or even 3, segments, and is never fully expanded but in bright sunshine. The *stamens* answer in number to the divisions of the *cal.* and *cor.* being almost always 5, awl-shaped, with roundish separate *anthers*. *Styles* very short. *Stigmas* ovate. Mr. D. Turner gathered, on Swaffham heath, some diseased specimens, with dense dark-purple heads, of abortive flower-buds.

β, found by the late Sir John Cullum, on a heath between Grantham and Ancaster, June 6, 1774, seems, by his specimens, a dwarf variety, which had survived the winter, nor can it by any specific mark be distinguished from the real *Amarella*; which is often seen much more dwarf in autumn, bearing but 1 or 2 *flowers*, as represented by Professor Hooker, *f.* 1.

G. germanica, Willd. v. 1. 1346, which is *G. critica* of Ehrhart, *Herb.* 152, and, according to Swiss specimens, Haller's *n.* 651, (though the latter indicates many wrong synonyms, and takes it for an English plant,) differs from *Amarella* in having *flowers* nearly twice as large, situated about the upper part of the *stem*, which is of a corymbose form of growth. It may be a good species, but has not yet been observed in England. Columna's *Gentianella purpurea minima, Ecphr.* 223. *t.* 221, copied in *Barrel. Ic. t.* 97. *f.* 2. is perhaps different. His *flowers* are 4-cleft, and their *calyx* has no tube. Barrelier's figures, copied and often perverted, are scarcely to be adjusted to all the known species, and perhaps several still remain undefined. *G. germanica* appears to be a vernal as well as autumnal plant.

6. G. *campestris*. Field Gentian.

Corolla salver-shaped, four-cleft; bearded in the throat. Two outer segments of the calyx ovate, very large.

G. campestris. *Linn. Sp. Pl.* 334. *Willd. v.* 1. 1348. *Fl. Br.* 288. *Engl. Bot. v.* 4. *t.* 237. *Hook. Scot.* 86. *Fl. Dan. t.* 367. *Ehrh. Herb.* 134.

G. n. 650. *Hall. Hist. v.* 1. 289.

G. pratensis, flore lanuginoso. *Raii Syn.* 275; excluding the reference to John, and perhaps to Caspar, Bauhin.

In elevated pastures, or upon green hills towards the sea coast,

where the soil is chalky or gravelly, in many parts of England and Scotland.

Annual. *September, October.*

Herb rather paler than the last, and of more humble growth, varying greatly in luxuriance. *Stem* somewhat corymbose, with simple *flower-stalks* of various lengths. *Leaves* ovate, acute, 3-ribbed. *Fl.* somewhat larger and paler than in *G. Amarella*, four-cleft, essentially distinguished by having the 2 outer and opposite segments of the *calyx* ovate and very broad, covering the 2 inner, which are narrow and lanceolate, or even awl-shaped; all deeply separated, and minutely fringed. *Styles* and *stigmas* like the last. None of the earlier figures express this form of the *calyx*, and therefore none of them can safely be referred to the present species, which appears, by various Swiss specimens, to be Haller's *n.* 650, thought by him difficult to ascertain; and which is certainly the *campestris* of Linnæus, who noticed its essential character in *Fl. Lapp. n.* 94. The wooden cut of Tillands, *Ic.* 46, appears on examination copied from that of Clusius and Gerarde, referred above to *G. nivalis.*

The foreign species of *Gentiana*, notwithstanding the labours of several excellent botanists, still require examination, with regard to their specific differences, and especially their synonyms.

To the end of Pentandria Digynia *is an entirely natural Order,*

Umbellatæ. Linn. 45. *Umbelliferæ.* Juss. 60. See *Grammar*, 132—135.

[I have now first attempted to arrange and characterize the genera of this Natural Order, by the parts of fructification alone, according to the wise principles taught by Linnæus; but against which he himself, in this instance, transgressed. To understand this arrangement, of which the technical characters are to be found at the head of the present order, *Pentandria Digynia*, it is necessary to give a detailed account of the parts in question.

Calyx superior, of 5, more or less unequal, leaves, or teeth, permanent, and somewhat enlarged, after flowering, frequently obsolete in the flower; and sometimes a mere rim, either entire or notched; sometimes altogether wanting.

Corolla of 5 petals, deciduous, equal, or mostly unequal; each *petal* either inversely heart-shaped, with an inflexed point between the lobes, which are sometimes unequal; or roundish, or elliptic-oblong, straight or inflexed, and undivided; the whole petal in some cases involute, or rolled in upon itself, as is seen in *Bupleurum.*

Stam. Filaments 5, equal or unequal, according as the petals are so, thread-shaped or awl-shaped, simple, spreading. *Anthers* roundish or oblong, incumbent, of 2 close parallel lobes, without any appendage, and 2 cells opening lengthwise.

Pistil. Germen inferior, usually simple, rarely a double globe; more or less compressed, either laterally or transversely; the surface either even, or striated longitudinally, smooth, hairy, or prickly. *Styles* 2, each proceeding from the inner side of a large, tumid, ovate, globular, pyramidal, or depressed, permanent base, of a glandular appearance, very seldom wanting; the *styles* themselves are usually cylindrical, short and erect in the flower, but subsequently elongated, either spreading or strongly reflexed, forming a pair of hooks to the fruit; in a few genera they are at every period long and capillary, in some degree spreading, almost invariably permanent, and hardened as the fruit ripens. *Stigmas* either simple, obtuse, or capitate, never divided.

Floral Receptacle, or *Disk*, a glandular ring, under the tumid bases of the styles, and mostly united therewith, but differing in substance, and often in duration, sometimes dilated into a thin undulated margin or ruffle, in general somewhat enlarged as the fruit ripens, sometimes withering, sometimes entirely wanting, finally separated into two parts, one of which accompanies each seed.

Fruit either ovate, roundish, elliptical, cylindrical, or oblong, tumid and solid, or thin and chaffy; compressed more or less, either laterally, that is, contrary to the portions of the *floral receptacle*; or transversely, parallel thereto; and finally separating into 2 naked seeds, each suspended by one branch of a capillary, upright, divided *receptacle*.

Seeds each of the shape of half the *fruit*; their outer *skin* various in substance, form, and surface, giving the character of the *fruit*; the inner thin, membranous and uniform; each *seed* crowned with one half of the *floral receptacle*, as well as with a part of the *calyx*, if either or both be present, and usually with one of the *styles*; their *juncture*, or point of union, flat, or finally concave, various in breadth in those which are compressed laterally; nearly as broad as the *seeds* in those which are compressed transversely; their *margins* either simple, or bordered with a membranous wing; their outer surface more or

less convex, either naked, downy, prickly, or scaly, variously ribbed, with flat, or concave, rarely convex, interstices, the ribs sometimes compressed, acute, or winged, sometimes prickly, or scaly. *Albumen* large, fleshy, composing the bulk of the seed. *Embryo* dicotyledonous, inverted, from near the upper end of the albumen.

Inflorescence (except in *Eryngium*) a simple, or more usually compound, *umbel*, of many *rays*, with or without several *bracteas* at the origin of the several rays. The absence or presence of these *bracteas*, and in some cases their shape, is resorted to by Linnæus for generic characters; to excuse which he denominates them *involucra* and *involucella*, as being supposed a kind of *calyx*, remote from the *flower*. But they are found in practice to lead to the formation of unnatural genera, and to be variable in the same species; affording an example of the treacherous nature of every thing belonging to the *inflorescence*, and not to the *fructification*, for generic discrimination.

Umbelliferous Plants are generally herbaceous, with *leaves* for the most part repeatedly compound. *Flowers* white, reddish, or yellow. Such as grow in dry or mountainous places are aromatic and wholesome; the marsh or aquatic kinds are virulent and dangerous.]

136. ERYNGIUM. Eryngo.

Linn. Gen. 127. *Juss.* 226. *Fl. Br.* 288. *Tourn. t.* 173. *Lam. t.* 187. *Gærtn. t.* 20.

Flowers aggregate. *Common Receptacle* conical, scaly, many-flowered, having a rigid, simple or three-cleft, acute scale, to each sessile perfect *flower*. *Cal.* of each flower superior, of 5 erect, pointed, equal leaves. *Pet.* 5, equal, oblong, channelled, taper-pointed, inflexed about the middle. *Filam.* capillary, straight, prominent. *Anth.* roundish-oblong, incumbent. *Germen* simple, inferior, oblong-ovate, clothed with erect bristles. *Styles* thread-shaped, straight, nearly erect and parallel, shorter than the stamens, permanent. *Stigmas* simple. *Fruit* ovate, slightly compressed transversely, bristly, separable lengthwise into 2 parts. *Seeds* oblong, nearly cylindrical, coated; the coat either permanent or deciduous.

Herbaceous, mostly perennial, glaucous or blueish, prickly, very rigid, scarcely at all hairy or downy. *Leaves* alternate, often pinnatifid, with spinous lobes or teeth; radical

ones stalked, largest, and most numerous. *Fl.* terminal, blue or whitish, inodorous, encompassed by large, leafy, pinnatifid, spinous *bracteas*, longer than the ovate head.

1. E. *maritimum*. Sea Eryngo. Sea Holly.

Radical leaves roundish, plaited, spinous. Heads stalked. Scales of the receptacle three-cleft.

E. maritimum. *Linn. Sp. Pl.* 337. *Willd. v.* 3. 1358. *Fl. Br.* 288. *Engl. Bot. v.* 10. *t.* 718. *Woodv. Med. Bot. t.* 102. *Hook. Scot.* 87. *Fl. Dan. t.* 875. *Bauh. Pin.* 386.

E. marinum. *Raii Syn.* 222. *Matth. Valgr. v.* 2. 42. *f.* *Camer. Epit.* 448. *f.* *Ger. Em.* 1162. *f.* *Dod. Pempt.* 730. *f.* *Lob. Ic. v.* 2. 21. *f.* *Bauh. Hist. v.* 3. 86. *f.*

On the sandy sea shore.

Perennial. *July, August.*

Roots very long, creeping, cylindrical, whitish, of a pungent aromatic flavour, with a mixture of mucilage. *Herb* smooth, glaucous, with an elegant blue tint. *Stem* a foot high, round, branched, leafy, furrowed. *Leaves* ribbed and veiny, bordered with sharp spinous teeth; the radical ones stalked, 3-lobed. *Fl.* solitary, terminal, with broad pinnatifid *bracteas*. *Petals* bright blue, erroneously drawn reflexed in *Engl. Bot.*

The roots, reckoned stimulating and restorative, are either sold candied, or administered in decoctions, variously prepared.

2. E. *campestre*. Field Eryngo.

Leaves clasping the stem; radical ones twice or thrice pinnatifid. Scales of the receptacle undivided.

E. campestre. *Linn. Sp. Pl.* 337. *Willd. v.* 2. 1358. *Fl. Br.* 289. *Engl. Bot. v.* 1. *t.* 57. *Winch Guide v.* 1. 26. *Jacq. Austr. t.* 155. *Fl. Dan. t.* 554. *Dod. Pempt.* 730. *f.*

E. n. 735. *Hall. Hist. v.* 1. 322.

E. vulgare. *Raii Syn.* 222. *Bauh. Hist. v.* 3. 85. *f.*

E. mediterraneum. *Ger. Em.* 1162. *f.*

E. montanum, sive campestre. *Matth. Valgr. v.* 2. 41. *f.* *Camer. Epit.* 447. *f.*

Eryngium. *Fuchs. Hist.* 296. *f.*

In waste ground, especially near the sea, but rare.

On a rock which you descend from Plymouth to the ferry, going to Cornwall. *Ray.* On the shore called Friar Goose, near Newcastle-upon-Tyne. *Lawson.* Also on St. Peter's quay, Northumberland. *Mr. Winch.* By the old Roman way called Watling-street, opposite Brookhall, near Daventry, as mentioned by Ray on the authority of Mr. Thornton. *Rev. Mr. Wood.* Near the Devil's Point, at Stonehouse, Plymouth. *Mr. Edward Forster.*

Perennial. *July, August.*

More bushy and slender, as well as more corymbose, and of a paler green, than the foregoing. Radical *leaves* larger, often triply pinnatifid, with decurrent lobes. *Bracteas* narrow, channelled, tapering, twice or thrice as long as the little globular *flowers*. *Scales* of the *receptacle* lanceolate, undivided and entire, with a simple spinous point. *Pet.* white or purplish, narrow, sharply inflexed.

137. SANICULA. Sanicle.

Linn. Gen. 128. *Juss.* 225. *Fl. Br.* 291. *Tourn. t.* 173. *Lam. t.* 191. *Gærtn. t.* 20.

Flowers separated; the central ones barren; marginal fertile, without stamens. *Cal.* superior; that of the barren fl. small, 5-leaved, acute; of the fertile larger, nearly equal, internally coloured. *Pet.* in the barren fl. 5, nearly equal, lanceolate, inflexed, channelled, compressed; in the fertile either deciduous, or entirely wanting. *Filam.* capillary, spreading, twice as long as the petals. *Anth.* roundish. *Germ.* inferior, roundish, bristly; wanting, or scarcely perceptible, in the central fl. *Styles* 2, reflexed, awl-shaped, about as long as the calyx, permanent. *Stigmas* obtuse. *Fruit* ovate, acute, destitute of ribs, densely clothed with spreading, hooked bristles, and finally separable into 2 *seeds*, convex on the outer side, flat on the inner; one of which, according to Gærtner, is often abortive.

Herbaceous, perennial, smooth. *Leaves* compound or lobed, with bristle-pointed serratures. *Umbels* irregularly aggregate, simple, many-flowered, dense, almost capitate, with 3-lobed general *bracteas*, and simple acute partial ones. *Fl.* white, or reddish.

1. S. *europæa*. Wood Sanicle.

Radical leaves simple, deeply lobed. Flowers all nearly sessile.

S. europæa. *Linn. Sp. Pl.* 339. *Willden. v.* 1. 1366. *Fl. Br.* 291. *Engl. Bot. v.* 2. *t.* 98. *Hook. Scot.* 87. *Fl. Dan. t.* 283. *Bull. Fr. t.* 267.

S. n. 737. *Hall. Hist. v.* 1. 323.

Sanicula. *Riv. Pentap. Irr. t.* 31.

S. sive Diapensia. *Raii Syn.* 221. *Ger. Em.* 948. *f.*

S. mas. *Fuchs. Hist.* 671. *f.*

Diapensia. *Brunf. Herb. v.* 1. 80. *f. Matth. Valgr. v.* 2. 366. *f. Camer. Epit.* 763. *f.*

Sideritis tertia Dioscoridis. *Column. Phytob.* 71. *t.* 72. *ed.* 2. 59. *t.* 16.

In woods and groves abundantly.

Perennial. *May.*

Root of numerous, black, tufted, rather fleshy fibres. *Stems* ascending, about a foot long, some much shorter; furrowed, slightly branched alternately. *Leaves* chiefly radical, stalked, with 3 very deep, 3-cleft, jagged and serrated lobes; those of the stem alternate, nearly sessile; all of a deep shining green, veiny. *Umbels* numerous, capitate, in an irregular, twice compound, partly umbellate, panicle. *Fl.* cream-coloured, with an occasional stain of red; the barren ones, in the middle of each umbel, most numerous.

The herb is bitter, with an acrid, somewhat aromatic, pungency. Its vulnerary qualities are no longer believed.

138. ECHINOPHORA. Prickly-Sampire.

Linn. Gen. 129. *Juss.* 225. *Fl. Br.* 293. *Tourn. t.* 423. *Lam. t.* 190.

Fl. separated; those of the circumference numerous, barren; the outermost irregular, often neuter; central solitary, fertile. *Cal.* superior, of 5, nearly equal, spinous-pointed, rigid, permanent leaves. *Pet.* in the outermost flowers unequal, each unequally heart-shaped, from the strong inflexion of the jagged point; in the rest of the barren ones equal, inflexed; in the central one wanting. *Filam.* in the fl. of the circumference only, longer than the petals, thread-shaped, inflexed, equal. *Anth.* of 2 roundish lobes. *Germ.* inferior, turbinate, in the fl. of the circumferenceabortive; in the central one imbedded in the base of the flower. *Styles* erect, somewhat unequal; in the central fl. longest, awl-shaped, a little recurved, permanent. *Stigmas* obtuse. *Fruit* ovate; imbedded in the enlarged *receptacle*, constituting a hardened prickly coat. *Seed* solitary, ovate-oblong.

Herbage very rigid, somewhat downy. *Stem* round, furrowed, much branched, leafy. *Leaves* doubly pinnatifid, with acute or spinous segments. *Umbels* compound, terminal, with spinous-pointed, general and partial, *bracteas*, the latter finally confluent and hardened. *Fruit* globose, variously armed.

†1. E. *spinosa*. Sea Prickly-Sampire. Sea Parsnep.

Leaves with spinous, awl-shaped, entire segments.

E. spinosa. *Linn. Sp. Pl.* 344. *Willd. v.* 1. 1379. *Fl. Br.* 293.

Engl. Bot. v. 34. *t.* 2413. *Fl. Græc. v.* 3. 58. *t.* 265. *Turr. Farset.* 7. *Cavan. Ic. v.* 2. 24. *t.* 127. *Jacq. Collect. v.* 2. 155.

E. maritima spinosa. *Tourn. Inst.* 656. *Dill. in Raii Syn.* 220.

Crithmum spinosum. *Dod. Pempt.* 705. *f. Ger. Em.* 533. *f. Raii Syn. ed.* 2. 114.

C. secundum. *Matth. Valgr. v.* 1. 445. *f. Ed. Bauh.* 381. *f. Camer. Epit.* 273. *f.*

Pastinaca marina. *Lob. Ic.* 710. *f. Bauh. Hist. v.* 3. *p.* 2. 196. *f. Dalech. Hist.* 1396. *f.*

On the sandy sea shore; not found by any recent botanist.

Observed by Mr. Lawson at Roosebeck in Low Furness, Lancashire. *Ray.* Between Feversham and Sea Salter. *Blackstone.* Between Whitstable and the isle of Thanet, by Sandwich, and near West-chester. *Gerarde.*

Perennial. *July.*

Root spindle-shaped, long and fleshy, reported to be eatable, having the flavour of Parsnep, with a stimulating and diuretic quality. *Herb* glaucous, finely downy, copiously branched, and spreading in every direction 2 or 3 feet. *Leaves* rigid, alternate or opposite, doubly pinnatifid, with narrow, channelled, entire, spinous-pointed segments. *Fl.* white, or pale flesh-coloured, numerous. *General bracteas* undivided, numerous, about as long as the stalks of the general *umbel; partial ones* much smaller, finally confluent with the receptacle and with each other. *Marginal flowers* radiant and sometimes neuter. *Fruit* globose, encompassed with the spreading hardened partial *bracteas,* and crowned with the thickened stalks, and permanent calyx-leaves, of the faded barren flowers.—There are rudiments of 2 *seeds,* though only one comes to perfection.

139. DAUCUS. Carrot.

Linn. Gen. 131. *Juss.* 224. *Fl. Br.* 300. *Tourn. t.* 161. *Lam. t.* 192. *Gærtn. t.* 20.

Fl. separated; the outermost irregular, barren; inner ones fertile; central mostly neuter, often coloured. *Cal.* obsolete. *Pet.* inversely heart-shaped, with an inflexed point, more or less irregular; the lobes of the 4 lateral ones very unequal, of the odd one equal and largest. *Filam.* capillary, longer than the corolla, spreading. *Anth.* rather oblong. *Germ.* inferior, ovate, bristly, imperfect in the outermost, as well as in the central, flowers. *Styles* thread-shaped, spreading, permanent, dilated at the base, and forming a double permanent globe. *Stigmas* obtuse. *Floral Receptacle* none. *Fruit* elliptic-oblong, transversely compressed, tumid. *Seeds* with 4 principal ribs, beset each with a row of numerous, flattish, somewhat

confluent, taper-pointed, straight or hooked, prickles; the intermediate ribs slightly prominent, roughish; the inner surfaces flat and even, closely applied to each other.

Root tapering, annual or biennial. *Stem* round, furrowed, branched, leafy. *Leaflets* repeatedly, and for the most part finely, divided, not spinous, flat, often hairy. *Umbels* compound, large, flat or convex while in flower, afterwards either concave or convex. *General*, and sometimes *partial*, *bracteas* pinnatifid, or three-cleft, narrow, permanent. *Fl.* white, or reddish, sometimes dotted, various in their respective degrees of perfection. *Fruit* adhesive, like burs.

1. D. *Carota*. Wild Carrot.

Bristles of the seeds slender. Leaflets pinnatifid, with linear-lanceolate acute segments. Umbels with a solitary, coloured, abortive flower; when in seed concave.

D. Carota. *Linn. Sp. Pl.* 348. *Willd. v.* 1. 1389. *Fl. Br.* 300. *Engl. Bot. v.* 17. *t.* 1174. *Woodv. Med. Bot. t.* 161. *Mart. Rust. t.* 82. *Hook. Scot.* 88. *Fl. Dan. t.* 723.

D. polygamus. *Gouan. Obs.* 9. *Jacq. Hort. Vind. v.* 3. 43. *t.* 78.

D. n. 746. *Hall. Hist. v.* 1. 326.

D. vulgaris. *Raii Syn.* 218. *Clus. Hist. v.* 2. 198.

Caucalis Carota. *Huds.* 114.

Staphylinus. *Riv. Pentap. Irr. t.* 28.

Pastinaca sylvestris. *Matth. Valgr. v.* 2. 107. *f.* bad. *Camer. Epit.* 508. *f.*

P. sylvestris tenuifolia. *Ger. Em.* 1028. *f.* bad.

P. erratica. *Fuchs. Hist.* 684. *f.*

In pastures, and the borders of fields, in a gravelly soil, common. Biennial. *June, July.*

Root slender, yellowish, aromatic and sweetish, resembling the Garden Carrot, which is only a cultivated variety. *Stem* 2 or 3 feet high, branched, erect, leafy, hairy or bristly. *Leaves* alternate, on broad, concave, ribbed footstalks, bipinnate, cut, narrow, acute, distantly hairy. *Umbels* terminating the long leafless branches, solitary, large, white, except the one central neutral *flower*, which is blood-red. *General bracteas* pinnatifid, slender, large, but not so long as the umbel; *partial* undivided, or partly 3-cleft, membranous at the edges. *Seeds* small, protected by the incurvation of all the flower-stalks, by which the umbels are rendered hollow, like a bird's nest.

The herb and seeds are diuretic, and esteemed useful in gravelly or calculous complaints.

2. D. *maritimus*. Sea-coast Carrot.

Bristles of the seeds flattened. Leaflets dilated, fleshy, pinnatifid, with rounded segments. Umbels convex when in seed.

D. maritimus. *With.* 290. *Comp.* 45. *Engl. Bot. v.* 36. *t.* 2560.
D. maritimus lucidus. *Dill. in Raii Syn.* 218.

On the sea coast, of the south of England.
Near Dover. *Sherard and Rand.* In Cornwall. *Withering.*
Biennial. *July, August.*

Of a more humble stature than the former, with broad, shining, bluntly cut *leaflets*, whose edges and ribs are hairy. The *bracteas* are all broader; the *partial* ones more generally three-cleft. *Umbels* destitute of the red central abortive flower, at all times convex, never concave. Bristles of the *seeds* more flattened at the base, rather resembling those of some foreign species than the foregoing, from which this plant is surely distinct. It must not be confounded with *D. maritimus* of Gærtner, *t.* 20, which is rather, as that author himself observes, a *Caucalis*.

140. CAUCALIS. Bur-parsley.

Linn. Gen. 130. *Juss.* 224. *Fl. Br.* 296. *Tourn. t.* 171. *Lam. t.* 192. *Gærtn. t.* 20.

Fl. imperfectly separated, irregular; the outermost fertile. *Cal.* superior, of 5 broad, acute, unequal, permanent leaves. *Pet.* more or less unequal, inversely heart-shaped, with a strongly inflexed point, the lobes of each almost equal. *Filam.* awl-shaped, shorter than the corolla. *Anth.* roundish. *Germ.* inferior, oblong, bristly. *Fl. Recept.* obsolete. *Styles* awl-shaped, slightly spreading, much shorter than the corolla, tumid and somewhat pyramidal at the base, permanent. *Stigmas* abrupt, oblique. *Fruit* elliptic-oblong, rather compressed transversely, tumid. *Seeds* with 4 principal ribs, beset each with a row of numerous, ascending, awl-shaped, hooked prickles; the intermediate spaces prickly or rough; the inner surfaces flattish, and close together.

Root annual, or biennial. *Stem* branched, furrowed, roughish, leafy. *Leaves* on short stalks, doubly or triply pinnatifid, toothed, or finely cut. *Umbels* lateral and terminal, stalked, of few general rays, and not many partial ones. *Fl.* white or reddish, several of them barren, or abortive. *Bracteas* various, often broad and membranous, always undivided. *Fruit* adhesive.

1. C. *daucoides.* Small Bur-parsley.

Umbels three-cleft, without general bracteas; partial ones with three bracteas, and ripening about three fruits. Leaves repeatedly subdivided.

C. daucoides. *Linn. Syst. Nat. ed.* 12. *v.* 2. 205. *ed.* 14. 276. *Mant.* 351. *Willd. v.* 1. 1384. *Fl. Br.* 296. *Engl. Bot. v.* 3. *t.* 197. *Jacq. Austr. t.* 157.

C. leptophylla. *Huds. ed.* 1. 99 ; not of Linn.

C. n. 739. *Hall. Hist. v.* 1. 324.

C. tenuifolia, flosculis subrubentibus. *Raii Syn.* 219.

Conium Royeni. *Linn. Sp. Pl.* 350.

Echinophora. *Riv. Pentap. Irr. t.* 24.

E. tertia leptophyllon purpurea. *Column. Ecphr.* 96. *t.* 97. *f.* 2.

In corn fields, on a chalky soil.

At Marham, Norfolk. *Mr. Crowe.* Carlby, between Stamford and Bourn, Lincolnshire. *Mr. Woodward.* Thorp Arch, Yorkshire. *J. Aikin, M.D.* Frequent in the counties of Oxford and Cambridge.

Annual. *June.*

Root small, tapering. *Herb* nearly smooth, bushy. *Stem* deeply furrowed, hairy at the joints. *Leaves* on short membranous-edged foot-stalks ; three-cleft at the base, then thrice compounded, with very narrow, deep-green segments. *Umbels* of 3 or 4 stout, spreading, principal rays, with rarely a small solitary *bractea;* the partial ones of 2 or 3 fertile *flowers,* with several barren, and some that are abortive. *Cal.* very obvious. *Pet.* generally reddish, but slightly radiant. Partial *bracteas* from 3 to 5, lanceolate, not membranous. *Fruit* large, oblong, very prickly, as well as somewhat hairy.

The synonym of Gerarde Em. 1021, quoted in *Fl. Br.,* certainly belongs to *C. grandiflora.*

2. C. *latifolia.* Great Bur-parsley.

Umbels three-cleft, with membranous bracteas; partial ones ripening about five fruits. Leaves pinnate, serrated.

C. latifolia. *Linn. Syst. Nat. ed.* 12. *v.* 2. 205. *ed.* 14. 276. *Willd. v.* 1. 1384. *Fl. Br.* 297. *Engl. Bot. v.* 3. *t.* 198. *Jacq. Hort. Vind. v.* 2. 59. *t.* 128.

C. n. 738. *Hall. Hist. v.* 1. 324.

C. arvensis echinata latifolia. *Bauh. Pin.* 152. *Raii Syn.* 219. *Mill. Ic. t.* 85. *Garid. Prov.* 90. *t.* 22.

Tordylium latifolium. *Linn. Sp. Pl.* 345. *Huds. ed.* 1. 98.

Echinophora quarta major platyphyllon purpurea. *Column. Ecphr.* 98. *t.* 97. *f.* 1.

Broad Bur-parsley. *Pet. H. Brit. t.* 27. *f.* 6.

β. Echinophora laciniata. *Dill. in Raii Syn.* 219.

Broad Jagged Bur-parsley. *Pet. H. Brit. t. 27. f. 7.*

In fields on a chalky soil, but rare.

In Cambridgeshire not uncommon.

Annual. *July.*

Herbage rough, somewhat glaucous. *Stem* taller, and less spreading, than in the foregoing, about 3 feet high, beset with minute ascending prickles. *Leaves* from 3 to 6 inches long, simply pinnate; leaflets deeply pinnatifid, or strongly serrated, the upper ones decurrent. *Umbels* lateral and terminal, on long, stout, furrowed, rough, upright stalks, each umbel of from 2 to 4, usually 3, long and firm rays; the partial ones of many very short rays, several of which in the centre bear barren, almost regular, *flowers*, and about 5 in the circumference produce perfect seeds. *Bracteas*, both general and partial, ovate, with a broad, white, membranous margin. *Cal.* of 5 broad, short, spreading, permanent leaves. *Pet.* bright pink, inversely heart-shaped, the outermost, of the marginal prolific flowers, thrice as large as the rest. *Styles* short and stout, moderately spreading, slightly tumid at the base. *Fruit* beset with double rows of straight, rigid, upright, rough, purplish bristles, and crowned with the calyx and styles.

One of the most striking and handsome of its tribe.

141. TORILIS. Hedge-parsley.

Adans. Fam. 99. *Spreng. Prodr.* 24. *Gærtn. v.* 1. 82. *t.* 20. *f.* 1, 2.

Fl. all perfect and fertile, except from occasional abortion, slightly irregular. *Cal.* superior, of 5 short, broad, acute, permanent, nearly equal, leaves. *Pet.* nearly equal, inversely heart-shaped, with an inflexed point, their lobes equal. *Filam.* capillary, spreading, longer or shorter than the corolla. *Anth.* roundish. *Germ.* inferior, ovate, bristly. *Fl. Recept.* obsolete. *Styles* awl-shaped, somewhat spreading, much shorter than the corolla, permanent, and subsequently elongated, very tumid at the base. *Stigmas* simple. *Fruit* ovate, tumid, crowned with the spreading styles. *Seeds* destitute of ribs, covered irregularly with ascending, awl-shaped, shortish, rigid prickles, or partly with blunt, prominent, crowded granulations; the *juncture* channelled, close.

The generic name, which is Adanson's, may possibly be derived from τορευω, *to carve*, or *emboss*, as I have hinted in Rees's Cyclopædia.

Root annual. *Herb* rough, with close rigid bristles. *Stem* leafy, branched, furrowed. *Leaves* doubly pinnate, cut. *Umbels* terminal or lateral, compound or simple, with

narrow partial *bracteas*, not always general ones. *Fl.* white, or reddish. *Fruit* small, adhesive. Qualities not remarkable.

1. T. *Anthriscus*. Upright Hedge-parsley.

Umbels of many close rays, with numerous general bracteas. Leaflets pinnatifid. Branches nearly upright.

T. Anthriscus. *Gærtn. v.* 1. 83.
Caucalis Anthriscus. *Huds.* 114. *Willd. Sp. Pl. v.* 1. 1388. *Fl. Br.* 298. *Engl. Bot. v.* 14. *t.* 987. *Curt. Lond. fasc.* 6. *t.* 22. *Lightf.* 155. *Hook. Scot.* 87.
C. n. 741. *Hall. Hist. v.* 1. 324.
Caucalis. *Riv. Pentap. Irr. t.* 32.
C. semine aspero, flosculis rubentibus. *Bauh. Pin.* 153. *Prodr.* 80. *f.*
C. minor, flosculis rubentibus. *Ger. Em.* 1022. *f. Raii Syn.* 219.
Tordylium Anthriscus. *Linn. Sp. Pl.* 346. *Jacq. Austr. t.* 261.

In hedges, and the borders of fields, very common.
Annual. *July.*
Root tapering. *Stem* erect, stiff, 2 or 3 feet high, solid, nearly round, furrowed, rough with deflexed bristles; the *branches* alternate, nearly erect. *Leaves* alternate, bipinnate, pinnatifid and sharply cut, rather soft than harsh to the touch; the lowermost on long channelled *footstalks*, and much the most compound. *Umbels* lateral and terminal, on long upright stalks, of from 7 to 10 rough rays, but little spreading. *Bracteas* both general and partial, several, awl-shaped, short, rough, permanent. *Fl.* small, either white, or flesh-coloured, the exterior ones only a little irregular or radiant; the middle ones frequently barren, or in some degree imperfect, but not uniformly so. *Fr.* small, with incurved bristles, often purplish, especially at the summit, where it is crowned by the *calyx*, and the divaricated *styles*, much lengthened out after impregnation.

2. T. *infesta*. Spreading Hedge-parsley.

Umbels of many close rays. General bracteas scarcely any. Leaflets pinnatifid. Branches spreading.

T. infesta. *Spreng. Prodr.* 24.
Caucalis infesta. *Curt. Lond. fasc.* 6. *t.* 23. *Fl. Br.* 299. *Engl. Bot. v.* 19. *t.* 1314. *Hook. Scot.* 87.
C. arvensis. *Huds.* 113. *Willd. Sp. Pl. v.* 1. 1387. *Lightf.* 155.
C. helvetica. *Jacq. Hort. Vind. v.* 3. 12. *t.* 16.
C. n. 742. *Hall. Hist. v.* 1. 325.
C. humilis. *Riv. Pentap. Irr. t.* 33.
C. segetum minor, Anthrisco hispido similis. *Raii Syn.* 220.
Scandix infesta. *Linn. Syst. Nat. ed.* 12. *v.* 2. 732. *Herb. Linn.*

In fields and by way sides, common.
Annual. *July.*
Smaller than the last, and more spreading, from 6 to 18 inches high. *Leaves* pinnate, deeply cut and sometimes almost bipinnate, harsh to the touch; the terminal leaflet elongated. *Umbels* of from 3 to 5 rather close rays, for the most part destitute of general *bracteas*, though now and then furnished with a solitary one, which, like the numerous partial bracteas, is lanceolate and acute. *Fl.* cream-coloured, or pure white; rarely flesh-coloured. *Anth.* yellowish or purple. *Fr.* larger than that of *T. Anthriscus*, green or reddish, crowned with the white or hoary *calyx*, and red *styles*, but not tipped with purple. A very distinct species, well marked by the deficiency of general *bracteas*, and by the spreading branches.

3. T. *nodosa.* Knotted Hedge-parsley.

Umbels lateral, simple, nearly sessile. Stem prostrate. Fruit partly granulated.

T. nodosa. *Gærtn. v.* 1. 82.
Caucalis nodosa. *Huds.* 114. *Willd. Sp. Pl. v.* 1. 1388. *Fl. Br.* 299. *Engl. Bot. v.* 3. *t.* 199. *Hook. Scot.* 88.
C. nodosa, echinato semine. *Bauh. Pin.* 153. *Prodr.* 80. *Raii Syn.* 220. *Ger. Em.* 1022. *f.*
C. ad alas florens. *Riv. Pentap. Irr. t.* 36.
Tordylium nodosum. *Linn. Sp. Pl.* 346. *Jacq. Austr. app. t.* 24.

On banks, and about the borders of fields; most plentiful in a gravelly or chalky soil.
Annual. *May, June.*
Root slender. *Stems* prostrate, branched, leafy, round, a foot long, rough with reflexed bristles. *Leaves* of a deep glaucous green, hairy, doubly pinnate and sharply cut, with very narrow, tolerably uniform, segments. *Umbels* opposite to the leaves, solitary, on short stalks, simple, dense, nearly globular, with several linear hairy *bracteas*. *Fl.* almost sessile. *Cal.* short and unequal. *Pet.* small, white or reddish, scarcely at all radiating or unequal. *Stam.* short. *Styles* globular at the base; straight and elongated after the flowering. *Seeds* ovate; the outer one of each external fruit thickly clothed with long, straight, pale, rough bristles, minutely hooked at the tips; the inner, as well as all the interior fruits, covered with dense, whitish, shining tubercular granulations.

142. ANTHRISCUS. Beaked-parsley.

Spreng. Prodr. 27.

Fl. all perfect, regular, and generally prolific. *Cal.* none. *Pet.* equal, uniform, inversely heart-shaped, with a small

inflexed point. *Filam.* capillary, the length of the corolla, spreading. *Anth.* roundish. *Germ.* inferior, ovate-oblong, bristly; naked and angular at the summit. *Fl. Recept.* slightly bordered. *Styles* awl-shaped, short, erect, tumid at the base, rather distant. *Stigmas* obtuse. *Fruit* ovate or somewhat lanceolate, tumid, beaked. *Seeds* without ribs, covered irregularly with short incurved bristles, except the beak, which is angular and naked, much shorter than the body of the fruit, abrupt, crowned with the permanent styles.

Root annual. *Herbage* smooth, or somewhat hairy. *Stem* branched. *Leaves* repeatedly compound and finely divided. *Umbels* lateral and terminal, compound, of several slender smooth rays, without any general *bracteas;* the partial *umbels* of rather more numerous rays, dense, uniform, with many lanceolate undivided *bracteas. Fl.* white. *Fr.* adhesive.

A. nodosa of Persoon and Sprengel wants the beak, and requires further examination, particularly as to the *flowers.*

1. A. *vulgaris.* Common Beaked-parsley.

Fruit ovate, twice the length of its beak. Leaves triply pinnate, pinnatifid.

A. vulgaris. "*Pers. Syn. v.* 1. 820." *Spreng. Prodr.* 27. *Hoffm. Umb. v.* 1. 43. *Hook. Scot.* 93.

Scandix Anthriscus. *Linn. Sp. Pl.* 368. *Willd. v.* 1. 1450. *Fl. Br.* 325. *Engl. Bot. v.* 12. *t.* 818. *Curt. Lond. fasc.* 1. *t.* 19. *Mart. Rust. t.* 75. *Jacq. Austr. t.* 154.

Caucalis scandicina. *Wigg. Holsat.* 23. *With.* 289. *Fl. Dan. t.* 863.

C. n. 743. *Hall. Hist. v.* 1. 325.

C. folio cerefolii. *Riv. Pentap. Irr. t.* 35.

Myrrhis sylvestris, seminibus asperis. *Bauh. Pin.* 160. *Raii Syn.* 220.

M. æquicolorum nova. *Column. Ecphr.* 110. *t.* 112.

On banks and waste ground, chiefly near large towns.

Annual. *May.*

Root fibrous. *Stem* 2 or 3 feet high, upright, leafy, round, very smooth and polished, swelled under each joint. *Leaves* of a most beautiful light green, especially when young; their ultimate segments uniform, narrow and bluntish; their edges, ribs, and stalks a little hairy. *Common footstalks* bordered and woolly at the lower part. *Umbels* on rather short stalks, each of 5, or more, general rays, and numerous partial ones, all smooth. *General bracteas* entirely wanting; *partial* about 5 or 6, ovate-lanceolate, pointed, with a membranous, fringed margin. *Fl.* small,

white, all uniform, perfect, and generally fertile. *Cal.* entirely wanting. *Pet.* inversely heart-shaped, scarcely at all unequal. *Fruit* ovate, tumid, slightly compressed, green, covered with numerous, short, ascending, incurved bristles, and tipped with a double, pyramidal, smooth, angular beak, scarcely half its own length, which is crowned by the very short erect *styles*, whose bases are large and tumid, without any evident floral *receptacle*.

The *petals* are inaccurately represented in *Engl. Bot.* as if they were inserted at the base, not the summit, of the beak.

The whole herb has a sweetish aromatic flavour, approaching to the Garden Chervil, to which it is in habit very nearly allied.

A. fumarioides and *nemorosa* of Sprengel are the only unquestionable species, besides the present, which have fallen in my way. His *nodosa*, *Scandix nodosa* of Linnæus, has no traces of a *beak*, and would be a *Torilis*, as Gærtner makes it, but for the want of a *calyx*.

143. SCANDIX. Shepherd's-needle.

Linn. Gen. 142. *Juss.* 220. *Fl. Br.* 323. *Spreng. Prodr.* 29. *Tourn. t.* 173. *Gærtn. t.* 85.

Chærophyllum. *Lam. t.* 201. *f.* 6.

Fl. separated; the innermost barren. *Cal.* none. *Pet.* unequal, undivided, tapering at the base, spreading. *Filam.* thread-shaped, spreading, the length of the corolla. *Anth.* roundish. *Germ.* inferior, oblong, somewhat compressed, more or less rough, with close hairs. *Styles* spreading, short, finally erect, permanent, swelled at the base. *Stigmas* simple; in the barren fl. obtuse. *Fruit* ribbed, somewhat bristly, elliptic-oblong, with a straight, linear, flat, bristly beak, five times its own length, crowned with the permanent, enlarged, 5-lobed, coloured *receptacle* of the flower, surrounding the base of the *styles*.

Annual herbs, with, more or less radiant, white *flowers*. *Leaves* finely subdivided. *Umbels* either simple, solitary or in pairs, or regularly compound, without *general bracteas*. *Partial bracteas* several, oval, divided or irregularly cut, with a membranous fringed margin, all considerably longer than the very short flower-stalks. *Petals* elliptic-oblong, acute, inflexed; or obovate; obtuse, and spreading; the outermost one, of the marginal *flowers*, sometimes very large and radiant.

1. S. *Pecten-Veneris*. Common Shepherd's-needle. Venus's Comb; or Needle Chervil.

Fruit nearly smooth, with a bristly-edged beak. Umbels

simple; solitary or in pairs. Bracteas jagged. Petals inflexed at the point.

S. Pecten-Veneris. *Linn. Sp. Pl.*368. *Willd. v.* 1.1449. *Fl. Br.*324. *Engl. Bot. v.* 20. *t.* 1397. *Curt. Lond. fasc.* 5. *t.* 21. *Mart. Rust. t.* 38. *Hook. Scot.* 92. *Fl. Dan. t.* 844. *Jacq. Austr. t.* 263. *Dod. Pempt.* 701. *f.*

Scandix. *Riv. Pentap. Irr. t.* 38.

S. semine rostrato, vulgaris. *Bauh. Pin.* 152. *Raii Syn.* 207.

Myrrhis n. 754. *Hall. Hist. v.* 1. 330.

Pecten Veneris. *Matth. Valgr. v.* 1. 481. *f.* *Camer. Epit.* 304. *f.* *Bauh. Hist. v.* 3. *p.* 2. 71. *f.* *Ger. Em.* 1040. *f.*

In cultivated fields common.

Annual. *June—September.*

Root tapering. *Stems* 1 or more, simple or bushy, spreading, a foot high, leafy, furrowed, smooth, or somewhat hairy, often purplish. *Leaves* light green, triply pinnatifid, with linear, acute, smooth segments. *Footstalks* dilated at the base, with membranous hairy edges. *Umbels* small, mostly terminal, stalked, in pairs, here and there solitary; with very short rays, overtopped by the broad, cloven or jagged, white-edged *bracteas*. *Fl.* in some degree radiant, especially those of the circumference, which alone ripen *seed*, the innermost having no perfect *germens*. *Petals* undivided, elliptic-lanceolate, acute, inflexed. *Fruit* beset with a few close bristles; the *beak*, which is $1\frac{1}{2}$ or 2 inches long, much more rough, especially at the edges, and crowned with the purplish, enlarged, 5-cleft *receptacle* of the flower, overtopped by the straight upright *styles*.

This is sometimes a troublesome weed, to which, though slightly aromatic and acrid, no particular use is attributed. Dioscorides, indeed, mentions it as eatable; but his Σχανδιξ may not be ours.

144. CHÆROPHYLLUM. Chervil.

Linn. Gen. 143. *Juss.* 220. *Fl. Br.* 325. *Spreng. Prodr.* 30. *Lam. t.* 201. *f.* 1, 2. *Gærtn. t.* 23.

Fl. imperfectly separated; the innermost barren. *Cal.* none. *Pet.* somewhat unequal, inversely heart-shaped, with an inflexed point. *Filam.* thread-shaped, spreading, about as long as the corolla. *Anth.* roundish. *Germ.* inferior, oblong, slightly compressed, smooth. *Styles* short, awl-shaped, a little spreading, tumid at the base. *Stigmas* simple. *Fruit* lanceolate, smooth and even, destitute of furrows or prominent ribs, with a short, angular, smooth beak, crowned with the depressed wavy *receptacle* of the flower, subtending the permanent, slightly recurved, *styles*.

Annual or perennial aromatic herbs, with a sweetish taste. *Stem* upright, branched, leafy, smooth and even, or furrowed. *Leaves* twice or thrice pinnate, cut, smooth. *Umbels* either terminal and stalked, or lateral and sessile, of several general as well as partial rays. *General bracteas* none; partial several, ovate-lanceolate. *Pet.* white. *Fruit* polished.

1. Ch. *sativum.* Garden Chervil.

Umbels sessile, lateral. Bracteas lanceolate.

Ch. sativum. *Bauh. Pin.* 152. *Gærtn. v.* 1. 107. *Spreng. Prodr.* 30. *Hook. Scot.* 93.
Chærefolium sativum. *Trag. Hist.* 471. *f.*
Cerefolium. *Riv. Pentap. Irr. t.* 43. *Matth. Valgr. v.* 1. 480. *f. Camer. Epit.* 302. *f.*
C. n. 747. *Hall. Hist. v.* 1. 327.
C. sativum. *Moris. v.* 3. 303. *sect.* 9. *t.* 11. *f.* 1.
C. vulgare sativum. *Ger. Em.* 1038. *f.*
Scandix Cerefolium. *Linn. Sp. Pl.* 368. *Willd. v.* 1. 1450. *With.* 307. *Engl. Bot. v.* 18. *t.* 1268. *Jacq. Austr. t.* 390. *Lam. f.* 1.
Gingidium. *Fuchs. Hist.* 217. *t.* 216.

In waste ground; perhaps the outcast of gardens.
Near Worcester. *Dr. Stokes.* In great plenty on a bank near Halesworth, Suffolk, to all appearance wild. *Mr. Turner and Mr. Wigg.* Frequent near Glasgow. *Mr. Hopkirk.*
Annual. *June.*
Root tapering. *Herbage* light-green, shining, delicate and tender. *Stem* round, hollow, striated, a little hairy at the joints only. *Leaves* twice pinnate, cut, with channelled *footstalks*. *Umbels* either axillary, or opposite to the leaves, of 3 or 4 spreading *general rays*, and several *partial* ones. *Fl.* slightly radiant. *Fr.* somewhat furrowed, not ribbed; sometimes, according to Jacquin's report, very slightly hairy.
This herb is much used in France for salads, and is mentioned as a pot-herb by Gerarde, though now little regarded.

2. Ch. *sylvestre.* Wild Chervil. Smooth Cow-parsley.

Umbels terminal, stalked. Bracteas ovate, membranous.

Ch. sylvestre. *Linn. Sp. Pl.* 369. *Willd. v.* 1. 1452. *Fl. Br.* 326. *Engl. Bot. v.* 11. *t.* 752. *Curt. Lond. fasc.* 4. *t.* 25. *Mart. Rust. t.* 96. *Hook. Scot.* 93. *Jacq. Austr. t.* 149. *Lam. f.* 2.
Cerefolium n. 748. *Hall. Hist. v.* 1. 328.
C. sylvestre. *Riv. Pentap. Irr. t.* 44.
C. sylvestre perenne, seminibus lævibus nigris. *Moris. v.* 3. 303. *sect.* 9. *t.* 11. *f.* 5.

Cicutaria vulgaris. *Raii Syn.* 207.
Myrrhis. *Fuchs. Hist.* 524. *t.* 525. *Dalech. Hist.* 761. *f.*

In hedges, and the borders of pastures and fields, in a rather fertile soil, very common.

Perennial. *April, May.*

Root spindle-shaped, a little milky. *Stem* about a yard high, branched, leafy, round, striated, hollow, somewhat swelled below the joints, especially when full grown; the lower part downy; upper sleek, and generally devoid of pubescence. *Leaves* triply pinnate; leaflets ovate, pinnatifid, rough-edged. *Umbels* smooth; the *partial* ones drooping more or less when young; quite erect when in full bloom, with about 5 ovate, membranous, densely fringed, deflexed *bracteas* to each. *Petals* unequal in the marginal *flowers*, which alone are prolific. *Fr.* lanceolate, with a deep channel at each side, blackish, polished, quite smooth and even, with a short, angular, furrowed beak. Bases of the *styles* almost globular, seated on a scarcely discernible floral *receptacle*.

The whole herb, having the flavour of carrots, is eaten by domestic cattle, and is reported to be very grateful to rabbits. The snow-white *flowers*, some of the earliest of their tribe, plentifully adorn the hedges, and bushy margins of fields, in spring, and announce the approach of summer.

145. MYRRHIS. Cicely.

Tourn. t. 166. *Moris. v.* 3. 301. *Hall. Hist. v.* 1. 329. *Spreng. Prodr.* 28. *Gærtn. t.* 23.

Species of *Scandix* and *Chærophyllum. Linn.*

Fl. imperfectly separated; the innermost barren. *Cal.* none. *Pet.* somewhat unequal, uniform, inversely heart-shaped, with an inflexed taper point. *Filam.* thread-shaped, spreading, as long as the petals, or longer. *Anth.* roundish. *Germ.* inferior, linear-oblong, somewhat club-shaped, abrupt, furrowed, smooth, slightly compressed. *Styles* awl-shaped, a little spreading, very tumid, and almost globose, at the base. *Stigmas* obtuse, or slightly capitate. *Floral receptacle* wanting. *Fruit* linear-lanceolate, a little curved, deeply furrowed, without a beak, altogether smooth, except, in some instances, a minute bristly roughness at the upper part, either of the furrows or of the angles, which latter are either acute and very prominent, or obtuse and dilated; the summit crowned with the thick bases of the spreading, permanent *styles*.

Perennial or biennial herbs, aromatic, pungent or sweet. *Stem* erect, branched, leafy, either rough or smooth; often

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spotted. *Leaves* twice or thrice pinnate, sharply cut, rather hairy. *Umbels* terminal, stalked, numerous, with many *general*, as well as *partial*, *rays*; scarcely ever any *general bracteas*, but numerous spreading *partial* ones, which are in some degree membranous, lanceolate, and pointed. *Fl.* white. *Fr.* tawny, or blackish.

1. M. *odorata*. Sweet Cicely.

Seeds with very sharp, prominent angles, roughish towards the summit.

M. odorata. *Scop. Carn. v.* 1. 207. *Roth Germ. v.* 1. 122. *v.* 2. *p.* 1. 314. *Hoffm. Umb. v.* 1. 29.

M. n. 753. *Hall. Hist. v.* 1. 330.

Myrrhis. *Dod. Pempt.* 701. *f. Lob. Ic.* 734. *f. Matth. Valgr. v.* 2. 512. *f. Camer. Epit.* 898. *f.*

M. magno semine longo sulcato. *Bauh. Hist. v.* 3. *p.* 2. 77. *f. Moris. v.* 3. 301. *sect.* 9. *t.* 10. *f.* 1.

Scandix odorata. *Linn. Sp. Pl.* 368. *Willd. v.* 1. 1449. *Fl. Br.* 323. *Engl. Bot. v.* 10. *t.* 697. *Lightf.* 166. *Jacq. Austr. app. t.* 37. *Ehrh. Pl. Off.* 423.

Chærophyllum odoratum. *Hook. Scot.* 93.

Cerefolium magnum, sive Myrrhis. *Ger. Em.* 1039. *f.*

Odorata. *Riv. Pentap. Irr. t.* 57.

In mountainous pastures.

In meadows betwixt Morton and Rushforth, in the west riding of Yorkshire, certainly a native. *Dr. Richardson. Herb. Buddl.* Near Leeds pretty common, and certainly wild. *Rev. Mr. Wood.* Abundant by the sides of rivulets in Wensley-dale, Yorkshire. *Mr. W. Brunton.* Behind a farm house, about a mile west of Hafod, Cardiganshire. Frequent, as Hudson remarks, in Westmoreland, Cumberland, and Lancashire; and, as Lightfoot and others have noticed, in the lowlands of Scotland; but generally near houses. It does not appear why Ray and Dillenius did not admit this plant as a native.

Perennial. *May.*

Root tapering, fleshy, sweet and aromatic, like the whole of the herb. *Stem* 2 or 3 feet high, round, leafy, sleek, but striated, hollow, like the footstalks. *Leaves* triply compound, with pinnatifid, acute, serrated, slightly hairy *leaflets*, of a bright green; the radical leaves on long cylindrical *footstalks;* the rest with very short, dilated, ribbed, membranous-edged ones, so as to be almost sessile. *Umbels* terminal, of numerous downy *rays*, both general and partial. *Bracteas* partial only, lanceolate, tapering, whitish, membranous, finely fringed. *Fl.* numerous, pure white; many of the middlemost with *stamens* only, nor any thing of the *pistil* but the large globular bases of the *styles*; several in the circumference fertile, and slightly radiant. *Stam.* in both.

Germ. oblong, a little hairy. *Fruit* an inch long, dark brown, crowned with the spreading *styles*. *Seeds* each with 3 very prominent, compressed, dorsal angles, or wings, rough, like fine saws, near the summit; the inner surfaces dilated, flattish, close together.

The young seeds have the flavour of Anise, and are gratefully stomachic, stronger than the herbage.

This plant might perhaps form the type of a separate genus; for the very prominent acute ribs of the *seeds* accord but ill with those of all the following, though there is no difference in the rest of the fructification.

2. M. *temulenta*. Rough Cicely. Rough Cow-parsley.

Seeds furrowed, nearly smooth. Stem rough, swelled under each joint.

M. temula. *Spreng. Prodr.* 29.
M. n. 750. *Hall. Hist. v.* 1. 329.
Myrrhis. *Riv. Pentap. Irr. t.* 49.
M. annua vulgaris, caule fusco. *Moris. v.* 3. 302. *sect.* 9. *t.* 10. *f.* 7.
Chærophyllum temulentum. *Linn. Sp. Pl.* 370. *Willd. v.* 1. 1454. *Fl. Br.* 326. *Engl. Bot. v.* 22. *t.* 1521. *Hook. Scot.* 93. *Curt. Lond. fasc.* 6. *t.* 24. *Fl. Dan. t.* 918. *Jacq. Austr. t.* 65.
Cerefolium sylvestre. *Raii Syn.* 207. *Ger. Em.* 1038. *f.*
Anthriscus Plinii. *Dalech. Hist.* 791. *f.*
Wild Chervil. *Pet. H. Brit. t.* 25. *f.* 3.

In bushy places, and under hedges, common.
Biennial. *June, July.*

Root spindle-shaped, subdivided. *Stem* about 3 feet high, round, solid, striated, rough with short deflexed hairs, and spotted with dark purple; swelled under each leaf. *Leaves* dark green, hairy, twice pinnate; leaflets pinnatifid and lobed, paler beneath. *Umbels* of many hairy unequal rays; the *partial* ones smooth, drooping when young. *General bracteas* either entirely wanting, or solitary; rarely numerous; *partial* several, ovate, pointed, rather membranous or coloured, finely fringed at the margin and keel, occasionally confluent at the base. *Fl.* white, numerous, very slightly irregular; partly barren, with the globular bases of the *styles* only; those of the circumference principally fertile. *Germ.* club-shaped, smooth. *Fruit* linear, crowned with the short recurved *styles* and their globose bases, without any obvious *receptacle* of the flower. *Stigmas* somewhat capitate. *Seeds* nearly cylindrical, rather furrowed than ribbed, slightly roughish, or tuberculated, towards the summit, in which character this species approaches the foregoing; but the ribs, or spaces between the furrows, are broad and convex, not acute and prominent.

The whole plant is sweetish and aromatic, acceptable to domestic cattle, nor is any intoxicating quality recorded, notwithstanding

the specific name. The herbage is often mildewed. Linnæus asserts that all the flowers are perfect; which does not accord with Haller's account, nor with our English specimens.

3. M. *aurea.* Tawny-seeded Cicely.

Seeds ribbed, nearly smooth, coloured. Stem slightly swelling, angular, hairy. Leaflets pointed, sharply pinnatifid or cut. General bracteas few; partial deflexed.

M. aurea. *Spreng. Prodr.* 29.

M. perennis alba minor, foliis hirsutis. *Moris. v.* 3. 301. *sect.* 9. *t.* 10. *f.* 2.

M. perennis alba minor, foliis hirsutis, semine aureo. *Rupp. Jen. ed. Hall.* 282. *t.* 5.

M. altera parva. *Lob. Ic.* 734. *f. Ger. Em.* 1039. *f.*

Chærophyllum aureum. *Linn. Sp. Pl.* 370; *but not Mant.* 356. *Willd. v.* 1. 1457. *Comp.* 48. *Engl. Bot. v.* 30. *t.* 2103. *Hook. Scot.* 94. *Don H. Br.* 207. *Jacq. Austr. t.* 64.

Cerefolium n. 749. *Hall. Hist. v.* 1. 328.

In the borders of fields in North Britain.

Between Arbroath and Montrose; and at Corstorphine, near Edinburgh. *Mr. G. Don.*

Perennial. *June.*

Stem three feet high, much branched, solid, angular, striated, downy with copious, short, deflexed hairs, intermixed with more or less numerous, coarser bristles; the joints more densely hairy, and a little swelled, crowned by the narrow annular base of each *common footstalk. Stem-leaves* remarkable for their tapering *leaflets,* with numerous, fine, sharp, parallel segments; their surfaces hairy or smooth. *Umbels* erect, of very numerous, smooth, general and partial rays. *General bracteas* few or none; *partial* reflexed, coloured, ovate-lanceolate, with long points. *Fl.* cream-coloured, slightly irregular; the barren ones numerous, with only globose rudiments of *styles. Fruit* in an early state club-shaped; when ripe linear, crowned with the lengthened spreading *styles,* whose tumid bases are somewhat depressed, and considerably wrinkled. *Seeds* linear, convex, of a tawny yellow, each with 3 prominent obtuse ribs, which are often roughish upward, as well as the intermediate spaces.

4. M. *aromatica.* Broad-leaved Cicely.

Seeds ribbed, smooth. Styles elongated. Leaflets ovate, acute, serrated, undivided.

M. aromatica. *Spreng. Prodr.* 28.

M. foliis podagrariæ. *Riv. Pentap. Irr. t.* 53.

Chærophyllum aromaticum. *Linn. Sp. Pl.* 371. *Willd. v.* 1. 1654. *D. Don in Tr. of Wern. Soc. v.* 3. 300. *Hook. Scot.* 94. *Jacq. Austr. t.* 150.

Cerefolium rugoso angelicæ folio, aromaticum. *Bocc. Mus.* 29. *t.* 19.
Scandix tinctoria. *Scop. Carn. v.* 1. 212; according to Jacquin.
Angelica sylvestris hirsuta inodora. *Bauh. Pin.* 156. *Prodr.* 82.

By road sides in Scotland, but rare.
Near Guthrie, by the road leading from Forfar to Arbroath. *Mr. G. Don.*
Perennial. *June.*
Herb when bruised somewhat aromatic; but the *seeds*, according to Jacquin, have scarcely any flavour. Scopoli says they stain the fingers, when rubbed, with a brownish red. *Stem* 2 or 3 feet high, striated; round and hairy in the lower part; smooth upwards; slightly tumid and angular below each joint. *Leaves* on narrow-winged *footstalks*, large, twice ternate; *leaflets* stalked, ovate, or elliptic-oblong, acute, copiously, sharply, and rather finely serrated, with an occasional notch on one side at the base; their length 1½ or 2 inches; both sides nearly smooth; the serratures minutely fringed. *Umbels* of many smooth, slender, general and partial, rays. *Bracteas* lanceolate, pointed, reflexed, a few general occasionally, as well as several partial ones. *Fl.* numerous, white; the external ones fertile, slightly irregular. *Fruit* linear, crowned with the long, slender, spreading *styles*, whose tumid bases are rather depressed than globular; the *stigmas* obtuse. *Seeds* convex, each represented by Jacquin with 3, not very, prominent ribs. I have not seen them in perfection.

146. BUNIUM. Earth-nut.

Linn. Gen. 132. *Juss.* 223. *Fl. Br.* 301. *Lam. t.* 197. *Gærtn. t.* 140.
Bulbocastanum. *Tourn. t.* 161.

Fl. all uniform; the innermost many of them barren. *Cal.* of a few small, acute, spreading, often obsolete, leaves. *Pet.* equal, inversely heart-shaped, with an inflexed point. *Filam.* thread-shaped, spreading, longer than the corolla. *Anth.* roundish. *Germ.* inferior, ovate-oblong, ribbed, smooth. *Styles* awl-shaped; ovate, angular, and much swelled, at the base; permanent, more or less spreading. *Stigmas* obtuse, somewhat capitate. *Fruit* ovate-lanceolate, more or less strongly ribbed, crowned with the partly obsolete calyx, without any evident *floral receptacle*, and the permanent, either upright or reflexed, styles. *Seeds* each with 3 slightly prominent, distant ribs, which are strongest, with intermediate furrows, at the summit.
Root tuberous, globular. *Stems* 1 or more, erect, leafy, rather corymbose, with several *umbels* of white *flowers*. *Leaves* doubly pinnatifid, with narrow, linear, smooth

segments. *Bracteas* bristle-shaped; the *general* ones few, or none.

Bulbocastanum of Tournefort must be the type of this genus, whatever may become of the two Greek species, or any others, that have been added to it; neither can I concur with the learned Professor Sprengel, who cites Gouan erroneously, in reducing *Bulbocastanum minus* to *Sium*, and *B. majus* to *Myrrhis*. They cannot but be considered as of one and the same genus, if any regard is to be had to natural characters. Our only British species perhaps is the following.

1. B. *flexuosum*. Common Earth-nut. Kipper- or Pig-nut.

General bracteas scarcely three. Stem tapering and zigzag at the base. Fruit somewhat beaked. Styles nearly upright.

B. flexuosum. *With.* 291. *Sym.* 70. *Hull* 60. *Sibth.* 94. *Abbot* 60. *Fl. Br.* 301. *Engl. Bot. v.* 14. *t.* 988.

B. Bulbocastanum. *Huds.* 122. *Relh.* 118. *Curt. Lond. fasc.* 4. *t.* 24. *Comp.* 45. *Hook. Scot.* 88.

B. majus. *Gouan Illustr.* 10. *Willd. Sp. Pl. v.* 1. 1394.

Bulbocastanum. *Raii Syn.* 209.

B. minus. *Ger. Em.* 1064. *f.* *Bauh. Pin.* 162.

B. mas. *Dalech. Hist.* 773. *f.*

Œnanthe prima. *Camer. Epit.* 609. *f.*

In grassy pastures, especially on a gravelly soil, common.

Perennial. *May, June.*

Root eatable, nearly globular, black, irregular; internally white, aromatic, sweet and mucilaginous, with some acrimony; slightly fibrous at the lower part. *Stem* a foot high, or more, roundish, striated, smooth; tapering, zigzag, and whitish at the base, to a greater or less extent under ground; rarely quite straight and short in that part, when the root happens to lie very shallow. *Leaves* with long, very narrow, acute, entire segments; the radical ones twice or thrice pinnatifid, on long *foot-stalks*, tapering and zigzag under ground; the rest thrice ternate, scattered, on short, broad, ribbed, membranous, clasping *foot-stalks*. *Umbels* several, terminal, of 7, or many more, smooth, slender, straight, stiff rays; those of the *partial umbels* still more numerous. *Bracteas* very slender; the *partial* ones several; *general* from 1 to 3, short and slender, often entirely wanting. *Fl.* pure white, all regular, even those of the circumference very nearly so, and all furnished with *stamens* and *pistils*, though many of the central flowers bear no *seeds*. *Cal.* mostly wanting, or obsolete; sometimes of 2 or 3 short, sharp, spreading,

permanent leaves. *Fruit* ovate-lanceolate, shining, minutely wrinkled, with 3 narrow distant ribs at each side, and terminating in a more strongly ribbed, and deeply furrowed, point, crowned by the long, slender, nearly erect, permanent *styles*.

It appears that some accidental specimens, whose *roots* were not so deep in the ground as usual, and which might or might not have several *general bracteas*, have been taken for *B. Bulbocastanum*; but I could never meet with any such, even where they have been reported to grow. The true *B. Bulbocastanum* however, figured in *Fl. Dan. t.* 220. *Moris. sect.* 9. *t.* 2. *f.* 1. *Gærtn. t.* 140. *Lob. Ic.* 745. *f.* 1. *Ger. Em.* 1064. *f.* 2. *Lauremb. Appar.* 148. and which is Haller's n. 783; though its *stem* is occasionally tapering and wavy at the base, as in a specimen from Gerard in the Linnæan herbarium; is clearly distinguished by its shorter, more abrupt, *fruit*, which is not elongated, nor more furrowed, at the point, and especially by its closely reflexed *styles*. The *general bracteas* are constantly present, and numerous; occasionally three-cleft; the *umbels* of 10, 15, or 20 rays; and the whole plant much larger, often having 2 *stems*. This is *Bulbocastanum majus* of the Bauhins and other old authors. Gouan has well distinguished the two species, though he has strangely perverted their synonyms, and seems to have misled Sprengel.

If this should ever be found in Britain, the shorter, more abrupt *fruit*, and reflexed *styles*, will infallibly ascertain it.

147. SIUM. Water-parsnep.

Linn. Gen. 138. *Juss.*222. *Fl. Br.*312. *Tourn. t.* 162. *Lam. t.* 197. *Gærtn. t.* 23 ?

Fl. all uniform, and generally perfect. *Cal.* of 5 small, acute, unequal leaves, often obsolete. *Pet.* equal, inversely heart-shaped, or obovate, with more or less of an inflexed point. *Filam.* thread-shaped, spreading, longer than the corolla. *Anth.* roundish. *Germ.* inferior, roundish-ovate, striated. *Styles* cylindrical, more or less spreading, moderately swelling at the base, shorter than the petals, permanent. *Stigmas* obtuse. *Fruit* ovate, or orbicular, slightly compressed, furrowed, crowned with the permanent styles and withered calyx, without any prominent *floral receptacle*. *Seeds* tumid, convex, each with 5 generally strong ribs.

Acrid and dangerous herbs, smooth in every part, mostly aquatic and perennial. *Leaves* oblong, scarcely more than simply pinnate; *leaflets* deeply serrated or divided. *Umbels* lateral or terminal, white, with *partial*, and for the most part *general*, *bracteas*.

1. S. *latifolium.* Broad-leaved Water-parsnep.

Leaves pinnate; leaflets oblong-lanceolate, equally serrated.

S. latifolium. *Linn. Sp. Pl.* 361. *Willd. v.* 1. 1431. *Fl. Br.* 312. *Engl. Bot. v.* 3. *t.* 204. *Hook. Lond. fasc.* 2. *t.* 110. *Scot.* 90. *Fl. Dan. t.* 246. *Jacq. Austr. t.* 66. *Bauh. Pin.* 154.

S. n. 777. *Hall. Hist. v.* 1. 345.

S. latifolium, foliis variis. *Raii Syn.* 211.

S. majus latifolium. *Ger. Em.* 256. *f.*; also angustifolium. *ibid. f.*

S. verum. *Camer. Epit.* 265. *f.*

S. maximum latifolium. *Bauh. Hist. v.* 3. *p.* 2. 175. *f.*

Sium. *Riv. Pentap. Irr. t.* 78.

Coriandrum latifolium. *Crantz Austr. fasc.* 3. 101. *Roth Germ. v.* 1. 131, *v.* 2. *p.* 1. 349.

In rivers, ditches and fens.

Perennial. *July, August.*

Root fleshy, with numerous long fibres, creeping. *Stems* from 3 to 6 feet high, erect, angular and deeply furrowed, leafy, hollow, smooth, very little branched. *Leaves* from 6 to 12 inches in length, oblong, smooth, for the most part simply pinnate, with about 5 or 6 pair of large, opposite, lanceolate, acute *leaflets*, with an odd one, all copiously, sharply and regularly serrated; those leaflets only which grow under water being often doubly pinnatifid, with very narrow segments. *Footstalks* of the lower leaves long, cylindrical, hollow, and striated; the rest very short; all clasping the stem with a dilated membranous margin. *Umbels* terminal or axillary, stalked, solitary, erect, large, nearly flat, of numerous, smooth, general and partial rays. *Bracteas* several general as well as partial, lanceolate, taper-pointed, ribbed, with white membranous edges. *Fl.* numerous, snow-white, small, the outermost a little irregular. *Cal.* of 5 acute, rather unequal leaves. *Fruit* elliptic-ovate, small. *Styles* permanent, reflexed, slightly tumid at the base. Each *seed* is semi-elliptical, with 5 pale, stout, rounded, prominent ribs; the deep intermediate spaces striated. One of the *seeds* is often abortive, and the other is then much incurved. Their flavour is aromatic, and less acrid than the rest of the plant; which like all the tribe, when in growing water, partakes of a poisonous quality.

Surely the habit and characters of this plant are very remote from *Coriandrum.*

2. S. *angustifolium.* Narrow-leaved Water-parsnep.

Leaves pinnate; leaflets unequally lobed and serrated. Umbels stalked, opposite to the leaves. Stem erect.

S. angustifolium. *Linn. Sp. Pl.* 1672. *Willd. v.* 1. 1431. *Fl. Br.* 313. *Engl. Bot. v.* 2. *t.* 139. *Hook. Lond fasc.* 2. *t.* 111. *Scot.* 90. *Jacq. Austr. t.* 67. *Ehrh. Pl. Off.* 113.

S. nodiflorum. *Fl. Dan. t.* 247.
S. erectum. *Huds. ed.* 1. 103.
S. n. 778. *Hall. Hist. v.* 1. 346.
S. sive Apium palustre foliis oblongis. *Bauh. Pin.* 154. *Raii Syn.* 211.
S. minus. *Riv. Pentap. Irr. t.* 79.
S. verum Matthioli. *Dalech. Hist.* 1092. *f.*

In ditches and rivulets, not uncommon.
Perennial. *July, August.*
Root creeping extensively. Whole plant about half the size of the foregoing. *Stem* round, striated, smooth, erect, much branched, hollow. *Leaves* simply pinnate; *leaflets* sessile; those of the lower leaves ovate, strongly serrated; of the upper lanceolate, pointed, deeply and unequally cut, partly hastate, all very smooth. *Umbels* on lateral stalks, generally shorter than the leaves to which they are opposite, each of many general and partial rays. *Bracteas* general as well as partial reflexed, leafy, unequal, lanceolate, undivided, cut, or sharply 3-lobed. *Cal.* of 5 minute teeth. *Petals* white, very slightly irregular in the outermost flowers. *Styles* more tumid at the base than the former, and almost ovate in that part; at length reflexed in their upper half, with obtuse *stigmas*. *Fruit* roundish-ovate, short; with 3 dorsal, not very prominent ribs, and 2 remote lateral ones, to each *seed*.

3. S. *nodiflorum*. Procumbent Water-parsnep.

Leaves pinnate; leaflets ovate, equally serrated. Umbels nearly sessile, opposite to the leaves. Stem procumbent.

S. nodiflorum. *Linn. Sp. Pl.* 361. *Willd. v.* 1. 1432. *Fl. Brit.* 313. *Engl. Bot. v.* 9. *t.* 639. *Woodv. Med. Bot. t.* 182. *Hook. Scot.* 90.
S. umbellatum repens. *Ger. Em.* 256, 258. *n.* 3; excluding the reference to *Dalech. Hist. Lugd.* 1092. *Raii Syn.* 211.
S. aquaticum procumbens, ad alas floridum. *Moris. v.* 3. 283. *sect.* 9. *t.* 5. *f.* 3.
Creeping Water-parsnep. *Pet. H. Brit. t.* 26. *f.* 3.

In ditches and rivulets frequent.
Perennial. *July, August.*
Smaller than the last. *Root* creeping. *Stems* procumbent or floating, often creeping, various in length, branched, round, hollow, striated. *Leaves* distant, each of 2 or 3 pair, with an odd one, of ovate, serrated, not deeply cut, *leaflets;* the terminal one sometimes confluent with the two next. *Foot-stalks* with a broad membranous border. *Umbels* on very short stalks opposite to the leaves, each of about 5, 6, or 7 *general rays;* the *partial umbels* of more numerous, short and slender ones. *General bracteas* solitary, or more frequently wanting; *partial* several, ovate, concave, white with green ribs. *Fl.* small, green-

ish white. *Cal.* very short. *Pet.* ovate, slightly inflexed, and scarcely heart-shaped. *Fruit* like the last, but with rather more prominent and sharper ribs.

The juice of this herb is recommended in cutaneous disorders. Three large spoonfuls are given, mixed with milk, twice a day.

4. S. *repens.* Creeping Water-parsnep.

Leaves pinnate; leaflets roundish, deeply toothed. Umbels stalked, opposite to the leaves. Stem creeping.

S. repens. *Linn. Suppl.* 181. *Willd. Sp.Pl. v.* 1. 1432. *Fl.Br.* 314. *Engl. Bot. v.* 20. *t.* 1431. *Hook. Scot.* 90. *Relh.* 114. *Sibth.* 97 *Abbot* 63. *Jacq. Austr. t.* 260. *Fl. Dan. t.* 1514.

In boggy meadows, or on watery commons.

On Bullington Green and Cowley Bottom, near Oxford. *Sibthorp.* On Coldham Common, Cambridgeshire. *Relhan.* On Goldington Green, and Stevington Bogs. *Abbot.* At Fisher-row, and on Guillon Links, near Edinburgh. *Dr. Hope*; *confirmed by Mr. J. T. Mackay.*

Perennial. *August.*

Still smaller than the last-described, with several slender, quite prostrate, creeping *stems*. *Leaves* scattered, stalked, erect; *leaflets* from 3 or 5 to 11, roundish or wedge-shaped, coarsely toothed, the odd one generally 3-lobed. *Foot-stalks* bordered at the base with a pointed membrane. *Umbels* opposite to the leaves, on stalks of various lengths; their *general rays* from 3 to 6, unequal; *partial rays* numerous. *Bracteas* lanceolate; the *general* as well as *partial* ones from 4 to 6. *Fl.* white, partly abortive. *Cal.* obsolete. *Pet.* obovate, incurved. *Styles* permanent, short, spreading horizontally. *Fruit* nearly orbicular, dark brown, small, each *seed* with 5 equidistant, prominent, pale ribs, exactly as in *S. latifolium.*

5. S. *inundatum.* Least Water-parsnep.

Leaves pinnate, cut; the lowermost in many compound capillary segments. Umbels five-flowered, in pairs.

S. inundatum. *Wiggers Holsat.* 24. *Roth Germ. v.* 2. *p.* 1. 336.
S. n. 780. *Hall. Hist. v.* 1. 346.
S. pusillum, foliis variis. *Raii Syn.* 212.
S. minimum, foliis imis ferulaceis. *Moris. v.* 3. 283. *sect.* 9. *t.* 5. *f.* 5.
S. minimum umbellatum, foliis variis. *Pluk. Phyt. t.* 61. *f.* 3.
Least Water-parsnep. *Pet. H. Brit. t.* 26. *f.* 4.
Sison inundatum. *Linn. Sp. Pl.* 363. *Willd. v.* 1. 1437. *Engl. Bot. t.* 227. *Hook. Scot.* 91. *Fl. Dan. t.* 89.
Hydrocotyle inundata. *Fl. Br.* 290.
Meum inundatum. *Spreng. Sp. Umb.* 114.

In ditches, pools, and wet ground overflowed in winter.

Perennial? *May.*

Root creeping. *Stems* procumbent or floating, branched, round, leafy, throwing out fibrous radicles. *Leaves* on dilated clasping *footstalks*, alternate, oblong; those above water simply pinnate, with 5 or 7 wedge-shaped, 3-cleft or pinnatifid, somewhat succulent, *leaflets*; the immersed ones twice or thrice compound, and capillary. *Flower-stalks* opposite to the leaves, and nearly as long, each bearing a pair of stalked distant *umbels*, of 5 *flowers*, with 4 or 5 unequal *partial bracteas*, but no *general* ones. *Fl.* white, all perfect and prolific. *Cal.* hardly discernible. *Pet.* ovate, slightly incurved. *Styles* very short, spreading, permanent, but not elongated after the flowering, nor is the floral *receptacle* enlarged. *Fruit* brown, somewhat elliptical, a little compressed. *Seeds* each with 5 prominent equidistant ribs, with 3 slender intermediate ones.

According to Linnæan principles, founded on the *inflorescence*, this plant should belong to *Hydrocotyle*; but its habit and *seeds* are surely those of a *Sium*. With *Sison* it has no connexion. Sprengel says it would be a *Sium*, had it *general bracteas*.

6. S. *verticillatum*. Whorled Water-parsnep.

Leaflets in numerous, linear, almost capillary, whorled segments.

S. verticillatum. *Lamarck Fr. v.* 3. 460. *Roth. Germ. v.* 2. 336. "*DeCand. Fr. v.* 4. 302." *Fl. Br.* 314. *Spreng. Sp. Umb.* 101.

Sison verticillatum. *Linn. Sp. Pl.* 363. *Willd. v.* 1. 1437. *Engl. Bot. v.* 6. *t.* 395. *Huds.* 120. *Lightf.* 1096. *t.* 35. *Hook. Scot.* 90.

Daucus pratensis, millefolii palustris folio. *Bauh. Pin.* 150.

D. pratensis. *Dalech. Hist.* 718. *f.*

Œnanthe millefolii palustris folio. *Moris. v.* 3. 289. *sect.* 9. *t.* 7. *f.* 10.

In salt marshes.

Plentiful in the western parts of Scotland and Wales. *Huds. Lightf.* Near Lane bridge, Killarney; and between Bantry Bay and the river of Kenmare, Ireland. *Mr. J. T. Mackay.*

Perennial. *July, August.*

Roots fleshy, spindle-shaped, aggregate. *Stem* solitary, 12 or 18 inches high, erect, round, striated, almost naked; slightly subdivided, or corymbose, at the top. *Leaves* chiefly radical, with short sheathing *footstalks*, pinnate, with numerous pairs of sessile *leaflets*, each deeply cut into many narrow linear segments, which spread so as to form a series of whorls. *Umbels* few, terminal, of many *general* and *partial rays*. *General Bracteas* about six, short, ovate; *partial* lanceolate, rather more numerous. *Fl.* copious, white, with purplish *anthers*. *Cal.* very small, acute. *Pet.* inversely heart-shaped, partly pointed. *Fruit* ovate, crowned with the short reflexed *styles*, which are tumid at the

base. *Seeds* each with 5 equidistant, prominent, pale ribs. Some *flowers* are abortive.

The *seeds* are slightly, not agreeably, aromatic. There can be no doubt of the genus of this plant.

148. SISON. Honewort.

Linn. Gen. 139. *Juss.* 221. *Fl. Br.* 315.

Fl. all uniform, perfect, and regular. *Cal.* obsolete, or bluntly toothed. *Pet.* equal, elliptic-lanceolate, or inversely heart-shaped, with an involute point. *Filam.* thread-shaped, spreading, about as long as the corolla. *Anth.* roundish. *Germ.* inferior, ovate, striated. *Styles* very short and thick, each with a very large, tumid, sometimes depressed, base, permanent. *Stigmas* obtuse, distant. *Fruit* ovate, or nearly orbicular, compressed, crowned with the permanent unaltered styles, without any *floral receptacle*. *Seeds* convex, with 3 dorsal ribs.

Annual or biennial *herbs*, found in a chalky soil. *Stems* slender, round, rigid, tough, much branched. *Leaves* pinnate, sharply notched. *Umbels* terminal, numerous, unequal and irregular. *Bracteas* few, small, and narrow. *Fl.* white or reddish, small. *Seeds* pungent, nauseous.

1. S. *Amomum*. Hedge Honewort. Bastard Stone-parsley.

Leaves pinnate; the upper ones ternate. Umbels erect, of about four general rays. Bases of the styles globose.

S. Amomum. *Linn. Sp. Pl.* 362. *Willd. v.* 1. 1436. *Fl. Br.* 315. *Engl. Bot. v.* 14. *t.* 954. *Jacq. Hort. Vind. v.* 3. *t.* 17.

S. sive officinarum Amomum. *Bauh. Hist. v.* 3. *p.* 2. 107. *f.*

S. quod Amomum officinis nostris. *Bauh. Pin.* 154. *Moris. v.* 3. 283. *sect.* 9. *t.* 5. *f.* 7.

S. seu Petroselinum macedonicum Dodonæi. *Dalech. Hist.* 709. *f.*

Sium aromaticum, Sison Off. *Raii Syn.* 211.

Petroselinum. *Fuchs. Hist.* 654. *t.* 655.

P. macedonicum Fuchsii. *Dod. Pempt.* 697. *f.* *Ger. Em.* 1016. *f.*

Amomum germanicum. *Trag. Hist.* 461. *f.*

In marly or chalky, rather moist, ground, under hedges.

Annual, or Biennial. *August.*

Root tapering, with many lateral fibres. *Stem* about a yard high, erect, with numerous, alternate, rigid, wiry branches, a little zig-zag, smooth. *Leaves* dark green, smooth, pinnate; the odd *leaflet* lobed; all somewhat ovate, deeply cut and serrated; those of the upper leaves narrower, sharper, more divided, 3-lobed,

often pinnatifid. *Umbels* numerous, terminal, solitary, erect when in flower, each of about 4 unequal rays, the middle one shortest; *partial ones* also of few and unequal rays. *General Bracteas* from 2 to 4, lanceolate, small and slender; *partial* four, still smaller. *Fl.* cream-coloured, all nearly exactly regular, and fertile. *Cal.* scarcely discernible. *Pet.* inversely heart-shaped, with an incurved point. *Fruit* roundish-ovate, broad, short, moderately compressed. *Seeds* half-ovate, each with 3 dorsal, not very prominent, ribs, at a distance from the border. No *floral receptacle* is, at any period, visible, but the large globose bases of the *styles* occupy all the summit of the *germen* and *fruit*; the *styles* themselves being very short, or hardly any, with blunt, spreading, permanent *stigmas*.

The dry *seeds* are pungent and aromatic; but in an early state they have, like the whole herb, a peculiar nauseous scent when bruised, resembling that of Bugs.

2. S. *segetum*. Corn Honewort.

Leaves pinnate; leaflets roundish-ovate, numerous. Umbels drooping, irregularly aggregate. Bases of the styles dilated, depressed.

S. segetum. *Linn. Sp. Pl.* 362. *Willd. v.* 1. 1436. *Fl. Br.* 316. *Engl. Bot. v.* 4. *t.* 228. *Hook. Scot.* 91. *Jacq. Hort. Vind. v.* 2. *t.* 134.

Sium n. 779. *Hall. Hist. v.* 1. 346.

S. arvense, sive segetum. *Raii Syn.* 211.

S. terrestre, umbellis rarioribus. *Moris. v.* 3. 283. *sect.* 9. *t.* 5. *f.* 6. bad.

Selinum Sii foliis. *Goodyer in Ger. Em.* 1018. *f.* not good.

In rather moist fields, on a calcareous soil.

About Mapledurham, Hants. *Goodyer.* At Binham, Norfolk. *Mr. Crowe.* Near Kelmarsh, Northamptonshire. *Mr. Hanbury.* At Walthamstow. *Mr. Forster.* Found by Dr. Walker, in the Scottish island of Tirey (or Tirèe). *Hooker.*

Annual, or often Biennial. *August.*

Root tapering, small, very tough. *Stems* spreading in every direction, 12 or 18 inches high, branched, round, striated, rushy, somewhat leafy. *Leaves* chiefly radical, long, narrow, on long *footstalks; leaflets* 8 or 9 pair, besides the terminal one, which is often 3-lobed, all sessile, ovate or heart-shaped, smooth, serrated, cut, and partly lobed, of a pale or greyish green. *General Umbels* very imperfectly formed, with a few narrow, often very long, *general bracteas; partial umbels* irregularly assembled, drooping, each of a few extremely unequal *rays*, with 4 or 5 lanceolate, or awl-shaped, *partial bracteas*. *Fl.* regular, flesh-coloured, or white. *Cal.* of 5 minute, blunt, permanent leaves. *Pet.* ovate, strongly involute. *Styles* extremely short, each with a broad,

pale, depressed base, subsequently still more dilated, and crowning the oblong-ovate *fruit*, being tipped with the scarcely elongated *styles* and spreading blunt *stigmas*. *Seeds* oblong, strongly ribbed, with small intermediate ribs alternate with the 3 principal ones.

The whole herb is slightly aromatic; the *seeds* more pungent.

I have been anxious to preserve the natural genus of *Sison*, which Linnæus had the skill to detect, and, according to his principles, to define. The fructification accurately examined will, I trust, suffice to distinguish it; if not, the first species must be removed to *Sium*, where many authors have placed it, and with the second species of which, *angustifolium*, its fruit too nearly accords unless that species should be made a *Sison*, which is not advisable. In either case *Sison segetum* must remain; and, if I mistake not, the exotic *S. Ammi*, whose seeds likewise have intermediate ribs.

149. CICUTA. Cowbane.

Linn. Gen. 141. *Fl. Br.* 322. *Spreng. Prodr.* 19.
Cicutaria. *Juss.* 221. *Lam. t.* 195.

Fl. uniform, perfect, and nearly regular. *Cal.* superior, of 5 broad, acute, somewhat unequal, permanent leaves. *Pet.* 5, ovate, or slightly heart-shaped, with an incurved point, all nearly equal. *Filam.* thread-shaped, spreading, about as long as the corolla. *Anth.* roundish. *Germ.* inferior, hemispherical, compressed, ribbed. *Styles* thread-shaped, short, erect, scarcely tumid at the base; subsequently elongated, spreading, and permanent. *Stigmas* obtuse, almost capitate. *Floral Receptacle* depressed, withering. *Fruit* nearly orbicular, heart-shaped at the base, a little compressed, crowned with the permanent calyx concealing the fl. receptacle, and with the recurved elongated styles. *Seeds* hemispherical, tumid, each with 3 double dorsal ribs; their *juncture* contracted.

Perennial, fetid, poisonous, aquatic herbs. *Leaves* once or twice ternate, sharply serrated, pointed, smooth. *Umbels* lateral and terminal, large, with numerous general and partial rays. *Bracteas* linear; the *general ones* few, or none. *Fl.* numerous, white. *Fruit* rather small.

1. C. *virosa*. Water Cowbane. Water Hemlock.

Leaves twice ternate; leaflets linear-lanceolate, decurrent.

C. virosa. *Linn. Sp. Pl.* 366. *Willd. v.* 1. 1445. *Fl. Br.* 322. *Engl. Bot. v.* 7. *t.* 479. *Woodv. Suppl. t.* 268. *Hook. Scot.* 92. *Fl. Dan. t.* 208. *Gunn. Norveg. p.* 1. 26. *t.* 2.

C. aquatica Gesneri. *Bauh. Hist. v.* 3. *p.* 2. 175. *f.*
Cicutaria. *Riv. Pentap. Irr. t.* 77.
Coriandrum Cicuta. *Roth Germ. v.* 1. 130. *v.* 2. *p.* 1. 347.
Sium n. 781. *Hall. Hist. v.* 1. 346.
S. alterum, olusatri facie. *Ger. Em.* 256. *f. Lob. Ic.* 208. *f. Raii Syn.* 212.
S. aquaticum, foliis multifidis longis serratis. *Moris. v.* 3. 283. *sect.* 9. *t.* 5. *f.* 4.
S. erucæ folio. *Bauh. Pin.* 154. *Dalech. Hist.* 1094. *f.*

In ditches, and about the margins of rivers, not very common. Perennial. *August.*

Root tuberous, hollow, with many whorled fibres, and several transverse internal partitions. *Stem* 2 or 3 feet high, hollow, leafy, branched, furrowed, smooth. *Leaves* on long footstalks, twice ternate, bright green; *leaflets* sharply and deeply serrated, tapering at each end, from 1 to 2 inches long, more or less remarkably decurrent; those of the upper leaves very narrow. *Umbels* large, many-rayed, stalked, partly terminal, partly opposite to the leaves; *partial ones* of very numerous slender rays. *General Bracteas* very narrow, seldom more than 1 or 2, and for the most part entirely wanting; *partial* several, narrow, taper-pointed, unequal. *Anth.* and *styles* purplish. *Fruit* roundish, with a sinus at the base, smooth. *Styles* bowed, recurved, as long as the fruit, their bases finally a little tumid, and confluent with the *receptacle*. *Seeds* flattened at the sides; convex at the back, and marked with 3 prominent double ribs, which afford an excellent generic character hitherto unnoticed. The habit indeed, and the ternate *leaves*, which forbid our reducing this plant to *Sium*, might well lead us to expect some essential mark of difference in the fructification. I have not seen the fruit of *C. maculata*, nor of *C. bulbifera*.

C. virosa is a very fatal plant to horned cattle, if they happen to meet with it before it rises out of the water, in which state only they will eat the young leaves. The whole herb is reported to be poisonous also to other quadrupeds, as well as to mankind, producing sudden inflammation in the stomach. See *Engl. Bot.* Bulliard's *t.* 151 is certainly not our *Cicuta*, but may, possibly, represent *Angelica sylvestris*.

150. ÆTHUSA. Fool's-parsley.

Linn. Gen. 141. *Juss.* 220. *Fl. Br.* 323. *Lam. t.* 196. *Gærtn. t.* 22.

Fl. all perfect; the marginal ones a little irregular. *Cal.* superior, of 5 very minute, pointed, spreading leaves, often scarcely discernible. *Pet.* 5, inversely heart-shaped, deeply lobed, with an acute inflexed point; the outermost

rather the largest. *Filam.* thread-shaped, horizontal, shorter than the corolla. *Anth.* roundish. *Germ.* inferior, ovate, deeply furrowed, rather pointed. *Styles* short, spreading, tumid and ovate at the base; subsequently reflexed, scarcely elongated. *Stigmas* obtuse. *Fruit* ovate, crowned by the closely reflexed permanent styles, without any visible *floral receptacle*. *Seeds* ovate, moderately convex, with 5 tumid, rounded, acutely keeled, ribs, and deep acutangular interstices; their inner surfaces dilated, flat, marked with a pair of coloured longitudinal lines, and closely pressed together.

Annual herbs, fetid and poisonous, scarcely aromatic. *Stem* branched, erect. *Leaves* repeatedly ternate, pinnatifid. *Umbels* terminal, stalked, of many unequal rays, both general and partial. *General Bracteas* none; *partial* from 3 to 5, narrow, unilateral, pendulous. *Fl.* here and there abortive.

1. Æ. *Cynapium*. Common Fool's-parsley. Lesser Hemlock.

Leaves uniform; leaflets wedge-shaped, decurrent, with lanceolate segments.

Æ. Cynapium. *Linn. Sp. Pl.* 367. *Willd. v.* 1. 1446. *Fl. Br.* 323. *Engl. Bot. v.* 17. *t.* 1192. *Curt. Lond. fasc.* 1. *t.* 18. *Hook. Scot.* 92. *Bull. Fr. t.* 91.

Æ. n. 765. *Hall. Hist. v.* 1. 336.

Coriandrum Cynapium. *Roth Germ. v.* 1. 130. *v.* 2. *p.* 1. 346.

Cynapium. *Riv. Pentap. Irr. t.* 76.

Cicutaria tenuifolia. *Raii Syn.* 215. *Ger. Em.* 1063. *f.*

C. apii folio. *Bauh. Hist. v.* 3. *p.* 2. 180. *f.*

C. fatua. *Lob. Ic. v.* 2. 280. *f.*

Cicuta minor, petroselino similis. *Bauh. Pin.* 160. *Moris. v.* 3. 290. *sect.* 9. *t.* 7. *f.* 2.

In gardens and cultivated fields, a common weed.

Annual. *July, August.*

Root tapering, whitish. *Herb* erect, of a dark lurid green, fetid and reckoned dangerous. *Stem* round, striated, leafy, often purplish, a foot high. *Leaves* with short sheathing *footstalks*, all doubly pinnate, with decurrent, pinnatifid leaflets. *Umbels* stalked, terminal, spreading and flattish, distinguishable at first sight by their long, narrow, pendulous *partial bracteas*, and the want of *general* ones. *Fl.* pure white, rarely partially abortive. *Fruit* pale brown.

Great ignorance and carelessness can alone cause this weed to be mistaken for the Garden Parsley; yet such an accident some-

times happens. The few long pendulous *bracteas*, under each *partial umbel*, distinguish it from all its tribe. Dr. Bigelow of Boston in New England observed this *Æthusa* to be without scent in America; but seeds transmitted by him produced plants with the same nauseous garlick flavour as those of Great Britain. Some curious facts of a similar nature have been observed. The flowers of *Hesperis matronalis*, as I have heard, lose their scent in America after the first generation.

151. CONIUM. Hemlock.

Linn. Gen. 132. *Fl. Br.* 302. *Spreng. Prodr.* 38.
Cicuta. *Juss.* 223. *Tourn. t.* 160. *Lam. t.* 195. *Gærtn. t.* 22.

Fl. all perfect, slightly irregular. *Cal.* obsolete. *Pet.* 5, inversely heart-shaped, with an acute inflexed point; the outermost rather the largest. *Filam.* capillary, scarcely so long as the corolla. *Anth.* roundish. *Germ.* ovate, somewhat compressed, furrowed, wrinkled. *Styles* thread-shaped, elongated, spreading, a little swelled at the base, proceeding from the dilated, depressed, wavy, permanent *floral receptacle*. *Stigmas* obtuse. *Fruit* ovate, slightly compressed, with 10 prominent, acute ribs, wavy in an unripe state, crowned with the dilated undulated *fl. receptacle*, and the shortish, permanent, spreading styles. *Seeds* half-ovate, tumid, each with 5 prominent acute ribs, becoming finally straight and even; the interstices flat.

Herbaceous, fetid, with a branched hollow *stem*. *Leaves* repeatedly compound. *Umbels* numerous, terminal, of many *general*, as well as *partial*, *rays*. *General bracteas* several, short, ovate, unequal, reflexed; *partial* 3, narrow, short, unilateral, spreading.

1. C. *maculatum*. Common Hemlock.

Stem polished and spotted, much branched.

C. maculatum. *Linn. Sp. Pl.* 349. *Willd. v.* 1. 1395. *Fl. Br.* 302. *Engl. Bot. v.* 17. *t.* 1191. *Curt. Lond. fasc.* 1. *t.* 17. *Woodv. Med. Bot. t.* 22. *Hook. Scot.* 88. *Jacq. Austr. t.* 156. *Bull. Fr. t.* 53. *Bigel. Am. Med. Bot. t.* 11.
Κωνειον. *Fuchs. Hist.* 405. *t.* 406. *Bauh. Pin.* 160.
Cicuta. *Raii Syn.* 215. *Ger. Em.* 1061. *f. Lob. Ic.* 732. *f. Riv. Pentap. Irr. t.* 75. *Matth. Valgr. v.* 2. 443. *f. Camer. Epit.* 839. *f. Dod. Pempt.* 461. *f.*
C. n. 766. *Hall. Hist. v.* 1. 337.
C. major. *Bauh. Pin.* 160. *Moris. v.* 3. 290.
Coriandrum Cicuta. *Crantz. Austr. fasc.* 3. 100.
C. maculatum. *Roth Germ. v.* 1. 130. *v.* 2. *p.* 1. 348.

In hedges and waste ground, especially near towns and villages, frequent.

Biennial. *June, July.*

Root tap-shaped, whitish, fleshy. *Stem* from 3 to 5 feet high, erect, round, hollow, glaucous, polished, copiously spotted with purple; remaining long bleaching in the hedges through the autumnal months. *Leaves* large and repeatedly compound; *leaflets* ovate, closely and sharply pinnatifid, of a deep shining green, and not unhandsome; on long furrowed *footstalks*, sheathing at the base. *Umbels* terminal, very numerous, erect, compound, occasionally attended by 1 or 2 simple axillary ones, as in *Engl. Bot.*; all many-rayed and smooth. *General Bracteas* with membranous edges. *Fl.* numerous, white, all prolific; the outermost very slightly irregular. *Fruit* abundant, at all periods of growth sufficiently crisped, in some part or other, to show the generic character.

The herbage is fetid, narcotic and sedative, much used, in the form of an extract, for lowering the pulse in acute inflammatory disorders; and still more celebrated for relieving scrofulous and cancerous maladies. Haller has collected every thing that has been said on this subject, as to the external as well as internal application of Hemlock. Those who are interested, should be careful to have the right plant; and not, as is frequently the case, some inactive, or perhaps too potent and dangerous, herb of the same tribe, in its stead.

152. CORIANDRUM. Coriander.

Linn. Gen. 142. *Juss.* 220. *Fl. Br.* 320. *Spreng. Prodr.* 21. *Tourn. t.* 168. *Lam. t.* 196. *Gærtn. t.* 22.

Fl. all perfect; the outermost very irregular, prolific; the innermost regular, abortive. *Cal.* superior, of 5 broad, acute, unequal, permanent, withering leaves. *Pet.* 5, inversely heart-shaped, with an inflexed point; those of the innermost flowers nearly equal and regular; of the marginal ones irregular; the 2 inner ones equal, deeply lobed; 2 next with 2 very unequal lobes; the odd one with 2 very large, equal, obovate lobes. *Filam.* thread-shaped, spreading, as long as the smaller petals. *Anth.* roundish. *Germ.* a single or double globe, smooth. *Styles* thread-shaped, spreading, each in length equal to the diameter of the fruit, their bases conical, tapering. *Stigmas* small, obtuse. *Floral Receptacle* none. *Fruit* a single or double globe, crowned with the wide-spreading styles and withered calyx, smooth, without ribs. *Seeds* semi-orbicular, concave.

Annual, slender, branched *herbs*, with doubly pinnate, cut *leaves*, the upper ones having very narrow segments. *Umbels* lateral and terminal; *general rays* few; *partial* more numerous. *General Bracteas* almost entirely wanting; *partial* about 3, linear-lanceolate, unilateral. *Fl.* radiant, white or flesh-coloured. Recent plant, when bruised, odiously fetid, in every part, though the ripe *seeds*, in our British species, are agreeably aromatic, and not unwholesome. The exotic one differs so widely in its *fruit*, which is a double globe, that nothing can be more difficult than to include both species in one description, or definition, of that part. Yet nothing ought to separate generically plants so closely and peculiarly allied in every other particular. The *bracteas* vary. The *corolla* is radiant in both, though Linnæus reports otherwise.

* 1. C. *sativum*. Common Coriander.

The two hemispherical seeds making one uniform globe. Leaflets of the lower leaves wedge-shaped.

C. sativum. *Linn. Sp. Pl.* 367. *Willd. v.* 1. 1448. *Fl. Br.* 320. *Engl. Bot. v.* 1. *t.* 67. *Fl. Græc. v.* 3. 76. *t.* 283. *Woodv. Med. Bot. t.* 181. *Mart. Rust. t.* 141. *Dalech. Hist.* 735. *f. Ehrh. Pl. Off.* 302.

C. n. 764. *Hall. Hist. v.* 1. 335.

C. majus. *Bauh. Pin.* 158. *Riv. Pentap. Irr. t.* 71. *Moris. v.* 3. 269.

Coriandrum. *Raii Syn.* 221. *Brunf. Herb. v.* 1. 203. *f. Trag. Hist.* 115. *f. Fuchs. Hist.* 345. *f. Matth. Valgr. v.* 2. 121. *f. Camer. Epit.* 523. *f. Ger. Em.* 1012. *f. Riv. Pentap. Irr. t.* 70. *Bauh. Hist. v.* 3. *p.* 2. 89. *f.*

In fields and on dunghills; not really wild.

About Ipswich, and in some parts of Essex.

Annual. *June.*

Root tapering. *Stem* erect, 12 or 18 inches high, more or less branched, leafy, round, striated. *Leaves* scarcely stalked, all bipinnate and cut: the *leaflets* of some of the lowermost wedge-shaped, or fan-shaped; acutely notched; of the rest in fine linear segments. *Umbels* stalked, of 4 or 5 *general rays*, rarely more; the *partial rays* more numerous. *Fl.* white, often with a reddish tint. *Fruit* pale brown, somewhat coriaceous. *Seeds* striated and convex at the back; concave within.

There are probably two more species of this genus, obscurely indicated by J. Bauhin and other old writers, whose synonyms require investigation. *C. sylvestre*, which name it is desirable to retain, is well figured in his work. I have gathered it near Verona, but with unripe *seeds*, nor is the structure of its *fruit* any where explained.

153. ŒNANTHE. Water-dropwort.

Linn. Gen. 140. *Juss.* 221. *Fl. Br.* 317. *Spreng. Prodr.* 37. *Tourn. t.* 166. *Lam. t.* 203. *Gærtn. t.* 22.

Phellandrium. *Linn. Gen.* 140. *Juss.* 221. *Fl. Br.* 321. *Tourn. t.* 161.

Fl. more or less completely separated, or partially imperfect; the outermost very irregular, abortive; the innermost smaller, regular, and prolific. *Cal.* superior, of 5 large, lanceolate, acute, somewhat unequal, permanent leaves. *Pet.* 5, inversely heart-shaped, with inflexed points; in the fertile flowers nearly equal; in those of the circumference very unequal, but with equal lobes in each petal. *Filam.* thread-shaped, longer than the corolla. *Anth.* incumbent, small, roundish. *Germen* inferior, ovate-oblong, furrowed. *Styles* awl-shaped, slender, tumid at the base; in the barren fl. short and imperfect, with a greatly dilated or depressed base, in the place of the *floral receptacle*. *Stigmas* small, obtuse, recurved. *Fruit* oblong, or somewhat ovate, obtuse, with a corky bark, and 3 or 5 tumid, unequal, rounded ribs, with narrow, deep, intermediate furrows, in some species intermediate ribs; the summit crowned with the permanent calyx, and rigid, elongated, somewhat spreading, styles. *Seeds* ovate, with a light, furrowed, more or less spongy, bark.

Perennial, or biennial, fetid, often poisonous, aquatic *herbs*, with roundish, furrowed, branched, leafy, often hollow and tumid, *stems*, and compound, much-divided *leaves*. *Umbels* various, rather clumsy; *partial ones* dense, finally spherical, of very numerous rays, extremely short in the disk. *General Bracteas* linear, in some cases numerous, in others entirely wanting; *partial* numerous, narrow. *Cal.* green, conspicuous in every stage of growth. *Fl.* white, or pale purplish.

1. Œ. *fistulosa*. Common Water-dropwort.

Root sending forth runners. Stem-leaves pinnate, cylindrical, tubular. General bracteas mostly wanting.

Œ. fistulosa. *Linn. Sp. Pl.* 365. *Willd. v.* 1. 1140. *Fl. Br.* 317. *Engl. Bot. v.* 6. *t.* 363. *Hook. Scot.* 91. *Fl. Dan. t.* 846.

Œ. n. 755. *Hall. Hist. v.* 1. 331.

Œ. aquatica. *Bauh. Pin.* 162. *Raii Syn.* 210.

Œ. aquatica triflora, caulibus fistulosis. *Moris. v.* 3. 289. *sect.* 9. *t.* 7. *f.* 8. *Raii Syn.* 210.

Œnanthe. *Riv. Pentap. Irr. t.* 66.
Œ. quarta. *Matth. Valgr. v.* 2. 221. *f. Camer. Epit.* 611. *f.*
Œ. sive Filipendula aquatica. *Bauh. Hist. v.* 3. *p.* 2. 191. *f.* 192.
Filipendula aquatica. *Ger. Em.* 1060. *f.*
Juncus odoratus aquatilis. *Dod. Pempt.* 590. *f.*
Water Dropwort. *Pet. H. Brit. t.* 25. *f.* 5 & 6.

In ditches, ponds, and other watery places, common.
Perennial. *July, August.*
Root tuberous, propagating itself by runners. *Stems* erect, rising 2 or 3 feet above the water, round, hollow, tumid, striated, smooth, glaucous. *Radical leaves* under water, doubly pinnate, with flat, wedge-shaped, lobed *leaflets*; *stem-leaves* on long, tumid, sheathing stalks, hollow as well as their cylindrical compound *leaflets*. *Umbels* on long, hollow, lateral and terminal stalks, the lower ones of 3, the upper of several, general *rays*, with rarely one or two, almost capillary, *general bracteas*. *Partial umbels* of very numerous *rays*, those of the disk short, bearing fertile *flowers*; of the circumference still more abundant, and longer, bearing barren *flowers*, with rudiments only of *styles*. In fruit the *partial umbels* are globose, bristly with the long rigid *styles*, which are very little swelled at the base. *Fruit* turbinate, abrupt, with intermediate ribs, the principal ones not very prominent or turgid.
The variety β of Hudson, and of *Fl. Br.*, indicated by the figures of Morison, Dodonæus, and Petiver's n. 6, differs very slightly in size only, and that merely accidentally.

2. Œ. *pimpinelloides*. Parsley Water-dropwort.

Leaflets of the radical leaves wedge-shaped, cloven; of the rest entire, flat, linear, elongated. General bracteas linear, numerous.

Œ. pimpinelloides. *Linn. Sp. Pl.* 366. *Willd. v.* 1. 1442. *Fl. Br.* 318. *Engl. Bot. v.* 5. *t.* 347. *Hook. Scot.* 91. *Jacq. Austr. t.* 394.
Œ. Staphylini folio aliquatenùs accedens. *Bauh. Hist. v.* 3. *p.* 2. 191. *f. Raii Syn.* 210.
Œ. apii folio. *Bauh. Pin.* 162.
Œ. secunda. *Matth. Valgr. v.* 2. 219. *f. Camer. Epit.* 610. *f.*
Œ. aquatica, pimpinellæ saxifragæ divisurâ nostras. *Pluk. Alm.* 268. *Phyt. t.* 49. *f.* 4, very bad.

In salt marshes.
At Quaplod, near Spalding, Lincolnshire. *Plukenet.* Near Aber, North Wales. *Rev. Hugh Davies.* Cambridgeshire. *Rev. J. Hemsted.* On the east of Dunbar; also in Galloway, the isle of Arran, and other parts of Scotland. *Mr. J. Mackay.* Below Dumbarton. *Mr. Hopkirk.*
Perennial. *July.*
Root of several slender, tapering, fleshy tubercles, intermixed with

fibres. *Stem* nearly cylindrical, hollow, striated, leafy, slightly branched. Radical *leaves* doubly pinnate; their *leaflets* either elliptical and entire, or wedge-shaped with one or two notches; those of the stem for the most part simply pinnate, with long, linear, more or less acute, flat *leaflets*. *Umbels* terminal, of many general rays, with about an equal number of linear *bracteas*. *Partial umbels* many-flowered, with still more numerous *bracteas*, as long as their rays. *Fl.* pale flesh-coloured, slightly radiant. *Fruit* more elliptical than in the foregoing, with shorter *styles*, and a smaller *calyx*.

3. Œ. *peucedanifolia.* Sulphur-wort Water-dropwort.

Leaflets all linear. General bracteas none. Knobs of the root sessile, elliptical.

Œ. peucedanifolia. *Pollich Palat. v.* 1. 289. *t.* 3. *Willd. Sp. Pl. v.* 1. 1442. *Fl. Br.* 319. *Engl. Bot. v.* 5. *t.* 348. *Sibth.* 98. *Abbot* 64.
Œ. n. 756. *Hall. Hist. v.* 1. 331.
Œ. angustifolia. *Lob. Ic.* 729. *f.*
Œ. angustifolia aquatica recta vulgaris. *Moris. v.* 3. 289. *sect.* 9. *t.* 7. *f.* 7.
Filipendula angustifolia. *Ger. Em.* 1059. *f.*
Bolbocastanum fœmina. *Dalech. Hist.* 773. *f.* good.

In fresh-water ditches and bogs.
Near Bury. *Mr. Mathew.* About Bedford. *Abbot.* On the banks of the Isis beyond Ifley, and in peat bogs under Headington Wick copse, Oxfordshire. *Sibth.*
Perennial. *June.*
Root of several elliptic-oblong, fleshy knobs, crowded together at the base of the thick, solid, upright *stem*, which is taller and firmer than the last. *Leaflets* of the radical leaves, as well as of all the rest, linear, narrow and acute. *General umbels* of from 3 to 7 stout *rays*, with scarcely ever any *general bracteas*; *partial ones* dense, many-flowered, with short *rays*, and many lanceolate *bracteas* of the same length. *Cal.* erect, unequal. *Fl.* often reddish. *Fruit* large, tumid, deeply furrowed, forming globular heads, bristly with the long prominent *styles*. The marginal *flowers* are often without *stamens*.
The roots taste like the Garden Parsnep, but are probably dangerous food; yet these three species are not reckoned poisonous, though the next is perhaps the most virulent of British plants.

4. Œ. *crocata.* Hemlock Water-dropwort.

Leaflets all wedge-shaped, many-cleft, nearly uniform. Fruit linear-oblong, with slender intermediate ribs.

Œ. crocata. *Linn. Sp. Pl.* 365. *Willd. v.* 1. 1441. *Fl. Br.* 319.

Engl. Bot. v. 33. *t.* 2313. *Woodv. suppl. t.* 267. *Hook. Scot.* 92. *Don H. Br.* 160. *Jacq. Hort. Vind. v.* 3. 32. *t.* 55. *Bull. Fr. t.* 113.
Œ. cicutæ facie Lobelii. *Raii Syn.* 210.
Œ. maxima, succo viroso, cicutæ facie. *Moris. v.* 3. 288. *sect.* 9. *t.* 7. *f.* 2.
Œ. cicutæ facie, succo viroso croceo. *Lob. Ic.* 730. *f.*
Œ. succo viroso, cicutæ facie Lobelio. *Bauh. Hist. v.* 3. *p.* 2. 193. *f.*
Œ. tertia. *Matth. Valgr. v.* 2. 220. *f.*
Filipendula cicutæ facie. *Ger. Em.* 1059. *f.*

In watery places, osier holts, and about the banks of rivers, in various parts of Great Britain.
Perennial. *July.*
Root of many fleshy knobs, abounding with an orange-coloured, fetid, very poisonous juice, such as exudes less plentifully from all parts of the herb, when wounded. *Stem* from 2 to 5 feet high, much branched, somewhat forked, leafy, round, furrowed, hollow. *Leaves* of a dark shining green, doubly pinnate, with generally opposite, stalked, wedge-shaped, variously cut *leaflets*; those of the lowermost leaves rather the broadest; all veiny and smooth. *Umbels* large, terminal, stalked, convex, of many *general rays*, and still more copious *partial ones*. *General* as well as *partial bracteas* various in number and shape, either linear and undivided, or dilated, and partially leafy. *Fl.* white, or tinged with purple, very numerous and crowded, slightly radiant. *Fruit* very different from the last, being smaller, almost cylindrical, neatly and regularly striated, with 5 principal ribs to each *seed*, and 4 intermediate ones, rather more slender and acute. *Cal.* of 5 rather small, acute, erect or incurved teeth.
Brood mares, according to Sir Thomas Frankland, sometimes eat the root, and are poisoned by it. Ehret, the celebrated botanical draughtsman, experienced a giddiness from the scent of the herb.
Œ. prolifera of Linnæus, *Jacq. Hort. Vind. v.* 3. *t.* 62, seems by the Linnæan herbarium a mere variety of this; but Jacquin's figure of the *seed*, if correct, proves it essentially distinct. He clearly represents 5 very prominent tumid angles, with deep furrows between.

5. Œ. *Phellandrium.* Fine-leaved Water-dropwort.

Leaflets all uniform, with narrow, wedge-shaped, cut, divaricated segments. Fruit ovate, with five broad ribs, and narrow intermediate furrows.

Œ. Phellandrium. *Spreng. Prodr.* 37.
Œ. aquatica. *Lam. Dict. v.* 4. 530.
Phellandrium aquaticum. *Linn. Sp. Pl.* 366. *Willd. v.* 1. 1444. *Fl. Br.* 321. *Engl. Bot. v.* 10. *t.* 684. *Woodv. suppl. t.* 266. *Hook. Scot.* 92. *Don H. Br.* 161. *Bull. Fr. t.* 147. *Ehrh. Pl. Off.* 24.

Ph. n. 757. *Hall. Hist. v.* 1. 332.
Ph. vel Cicutaria aquatica quorundam. *Bauh. Hist. v.* 3. *p.* 2. 183. *f.* 184. *Raii Syn.* 215.
Phellandrium. *Dod. Pempt.* 591. *f. Riv. Pentap. Irr. t.* 65. *Dalech. Hist.* 1093. *f.*
Ligusticum Phellandrium. *Crantz. Austr. fasc.* 3. 84. *Roth Germ. v.* 1. 123. *v.* 2. *p.* 1. 321.
Cicutaria palustris. *Ger. Em.* 1063. *f. Lob. Ic.* 735. *f.*
C. palustris tenuifolia. *Bauh. Pin.* 161. *Moris. v.* 3. 291.

In rivers and ditches.
Biennial. *June, July.*
Root spindle-shaped, thick, with many whorled fibres. *Stem* 2 or 3 feet high, hollow, stout, furrowed, half immersed in the water, very bushy, with numerous, spreading, leafy branches. *Leaves* stalked, spreading, repeatedly pinnate, cut, with innumerable, fine, expanded, dark-green, shining, acute segments. *Umbels* opposite to the leaves, on shortish tumid stalks, many-rayed, without any *general bracteas*. *Partial umbels* very dense, of numerous short rays, accompanied by many narrow, taper-pointed *bracteas*. *Fl.* white, numerous; the outer ones largest, and most irregular; the innermost more certainly prolific. *Fr.* ovate, rather compressed, purplish, very smooth, crowned with the spreading *calyx*, and rather short, permanent, slightly spreading, *styles*. Each *seed* has 5 broad, tumid, scarcely corky ribs, separated by narrow furrows, and agrees better with the usual character of *Œnanthe* than the last species, which nevertheless cannot be separated from the rest.
Dr. Roth always writes the old name *Phelandrium*; which agrees with an etymology I have hazarded in Rees's Cyclopædia, v. 27, from φηλεω, *to be treacherous*, alluding to the poisonous nature of the plant. φηλλος, *cork*, is not at all satisfactory.

154. CRITHMUM. Samphire.

Linn. Gen. 134. *Juss.* 223. *Fl. Br.* 306. *Tourn. t.* 169. *Lam. t.* 197.
Cachrys. *Spreng. Prodr.* 20.

Fl. all regular, perfect, and prolific. *Cal.* superior, of 5 small, broad, acute, inflexed, concave, permanent leaves. *Pet.* 5, equal, elliptical, acute, incurved, broad at the base. *Filam.* thread-shaped, spreading, as long as the corolla. *Anth.* roundish. *Germen* inferior, elliptical, furrowed. *Styles* very short, and thick, each finally a little recurved, but never equalling in length its large, tumid, somewhat pyramidal, base. *Stigmas* obtuse. *Fl. Recept.* none. *Fruit* elliptical, crowned with the permanent calyx

and styles. *Seeds* elliptic-oblong, convex, with a thick coriaceous coat, each having 5 tumid, somewhat wrinkled, equidistant ribs, 2 of them marginal; the interstices narrow, flat.

Perennial, somewhat fleshy, herbs. *Leaves* repeatedly ternate, with thick, acute, linear or lanceolate, entire leaflets. *Umbels* terminal, stalked, compound, many-rayed, with several, general and partial, *bracteas*. *Fl.* white.

Our British *Crithmum*, together with *Cachrys Libanotis* of Linnæus, which is unquestionably of the same genus, constitutes the 2d section of Professor Sprengel's *Cachrys*. I think they are best kept separate, whatever may become of *Cachrys sicula*, Linn. figured in *Fl. Græc. t.* 278, which is nearly allied to them in genus, but the *flowers* are yellow, an important circumstance as to habit, and the *seeds* have very remarkably toothed wings. This fine plant ought perhaps to form a genus. The corky, smooth, turgid *fruit* of a real *Cachrys* is essentially different from it, as well as from our *Crithmum*; and I believe other marks of distinction will be found in the *flowers*. The *styles* are long and slender, with a broad depressed base; the *calyx* scarcely any; many of the *flowers* imperfect, or abortive. The woolly *seeds* of some ought not, perhaps, to cause a generic separation; but I do not presume here to decide this point, which does not concern the British Flora.

1. C. *maritimum*. Sea Sampire.

Leaflets lanceolate, fleshy. Bracteas ovate.

C. maritimum. *Linn. Sp. Pl.* 354. *Willd. v.* 1. 1408. *Fl. Br.* 306. *Engl. Bot. v.* 12. *t.* 819. *Dicks. H. Sicc. fasc.* 12. 16. *Hook. Scot.* 89. *Jacq. Hort. Vind. v.* 2. 88. *t.* 187.

C. marinum. *Raii Syn.* 217. *Ger. Em.* 533. *f.*

C. primum. *Matth. Valgr. v.* 1. 444. *f. Camer. Epit.* 272. *f.*

C. multis, sive Fœniculum marinum. *Bauh. Hist. v.* 3. *p.* 2. 194. *f. Moris. v.* 3. 289. *sect.* 9. *t.* 7. *f.* 1.

Fœniculum marinum, sive Empetrum, aut Calcifraga. *Lob. Ic.* 392. *f.*

Crethamus. *Cord. Hist.* 201. *f.*

Creta marina. *Lonic. Kreuterb.* 271. C. *f.*

Sampire. *Pet. H. Brit. t.* 24. *f.* 8.

On rocky sea shores and cliffs.

Perennial. *August.*

Root branched, creeping extensively. *Herb* glaucous, smooth, fleshy, salt and pungently aromatic in flavour. *Stems* about a

foot high, ascending, round, leafy, but little branched. *Leaves* on sheathing *footstalks*, twice ternate; *leaflets* uniform, above an inch long, lanceolate, acute, tapering at the base. *Umbels* dense, of many general and partial *rays*. *Bracteas* both general and partial numerous, alike in shape, ovate, acute, spreading, rather short. *Fl.* white, with yellowish *anthers*. *Styles* scarcely discernible in the flower, with a broad, wavy, depressed, white base to each, in the place of a *floral receptacle*, which afterwards becomes pyramidal, and the *styles* a little protruded and recurved, crowning the *fruit*.

The herb makes an old-fashioned English pickle, as those know who read Shakspeare's King Lear, and it is sold in the London shops; but there are many plants generally preferred for the same purpose. See *Salicornia*, *v.* 1. 2.

155. SMYRNIUM. Alexanders.

Linn. Sp. Pl. 144. *Juss.* 219. *Fl. Br.* 328. *Tourn. t.* 168. *Lam. t.* 204. *Gærtn. t.* 22.

Fl. nearly uniform, and regular; the innermost barren, or abortive. *Cal.* of 5 very minute, acute, permanent leaves. *Pet.* 5, equal, lanceolate, acute, incurved, in some inversely heart-shaped. *Filam.* capillary, as long as the corolla. *Anth.* roundish. *Germen* inferior, ovate, angular and furrowed. *Styles* thread-shaped, widely spreading, tumid, and somewhat depressed, at the base. *Stigmas* simple. *Fruit* solid, somewhat orbicular, broader than long, much hollowed out at each side, crowned with the styles, or their small pyramidal bases. *Fl. Recept.* none. *Seeds* turgid, with 3 prominent acute ribs; the interstices convex; the *juncture* more or less contracted.

Biennial, smooth, shining, aromatic *herbs*, with broad, twice or thrice ternate, *leaves;* yellowish-white, or yellow *flowers*, in compound *umbels;* without any *bracteas*. *Fruit* black.

1. S. *Olusatrum*. Common Alexanders.

Stem-leaves ternate, stalked, serrated.

S. Olusatrum. *Linn. Sp. Pl.* 376. *Willd. v.* 1. 1467. *Fl. Br.* 328. *Engl. Bot. v.* 4. *t.* 230. *Hook. Scot.* 94.

Smyrnium. *Raii Syn.* 208. *Matth. Valgr. v.* 2. 130. *f. Camer. Epit.* 530. *f.*

Hipposelinum. *Ger. Em.* 1019. *f. Dod. Pempt.* 698. *f.*

H. sive Smyrnium vulgare. *Moris. v.* 3. 277. *sect.* 9. *t.* 4. *f.* 1.

In waste ground, about antient ruins; often on rocks and cliffs near the sea.

Biennial. *May.*

Root large, fleshy, branching downwards. *Stem* stout, leafy, branched, solid, deeply furrowed, 2 or 3 feet high. *Lower leaves* very large, twice ternate, stalked; *upper* ternate, with a short, broad, concave, membranous, fringed, ribbed stalk, clasping the stem; all with very large, shining, ovate, cut and serrated *leaflets*. *Umbels* terminal, globular, of a pale greenish white, with very numerous general and partial *rays*, but no *bracteas*. *Fl.* small, extremely abundant and crowded, nearly uniform, slightly irregular. *Fruit* from those of the circumference, black, the size of a pea, much hollowed out at each side, when ripe almost a double globe, highly aromatic, but too strong and bitter to be pleasant, as is likewise the whole plant in a less degree; resembling Celery, which seems to have taken its place at modern tables.

156. APIUM. Parsley.

Linn. Gen. 146. *Juss.* 219. *Fl. Br.* 333. *Tourn. t.* 160. *Lam. t.* 196. *Gærtn. t.* 22.

Fl. uniform, and nearly regular, almost all perfect and prolific. *Cal.* obsolete. *Pet.* 5, roundish, or obovate, with an inflexed point, all very nearly equal. *Filam.* thread-shaped, about as long as the corolla. *Anth.* roundish. *Germ.* inferior, almost orbicular, somewhat compressed. *Styles* at first shorter than the stamens, nearly erect; subsequently elongated, thread-shaped, reflexed; greatly swelled at the base, and subtended by a thin, orbicular, wavy *floral receptacle*. *Stigmas* obtuse. *Fruit* ovate or nearly orbicular, solid, slightly compressed, flattened at the sides, crowned with the withered fl. receptacle, and spreading styles. *Seeds* ovate, with 3 acute dorsal ribs, and 2 marginal ones, meeting at the *juncture*, which is flat and the breadth of the seeds; interstices flat and even.

Biennial aromatic herbs, with broadish, cut *leaves*, and compound *umbels* of small greenish-white *flowers*, with or without *bracteas*. Of the only two known species, which are *A. Petroselinum*, Garden Parsley, and *A. graveolens*, Celery, the former has numerous narrow *partial bracteas*, with 1 or 2 *general ones*; the latter occasionally a *general bractea*, never any *partial ones*. This is a great objection, in so natural a genus, to taking those appendages into the generic character; but it would be more ill-judged to divide the genus on account of them.

1. A. *graveolens*. Smallage Parsley. Wild Celery.

Leaflets of the stem-leaves wedge-shaped. Stem furrowed. Partial bracteas none.

A. graveolens. *Linn. Sp. Pl.* 379. *Willd. v.* 1. 1475. *Fl. Br.* 333. *Engl. Bot. v.* 17. *t.* 1210. *Hook. Scot.* 95. *Fl. Dan. t.* 790. *Ehrh. Pl. Off.* 443 & 223.

A. Celleri. *Gærtn. v.* 1. 99. *t.* 22. *f.* 9.

A. n. 784. *Hall. Hist. v.* 1. 348.

A. palustre et A. officinarum. *Bauh. Pin.* 154. *Raii Syn.* 214.

A. palustre. *Matth. Valgr. v.* 2. 126. *f.* bad. *Camer. Epit.* 527. *f.* good.

A. vulgare ingratius. *Bauh. Hist. v.* 3. *p.* 2. 100. *f.*

Apium. *Fuchs. Hist.* 744. *f. Riv. Pentap. Irr. t.* 87.

Eleoselinum sive Paludapium. *Ger. Em.* 1014. *f.* bad, copied from Matthiolus.

In ditches and marshy ground, especially towards the sea.

Biennial. *August, September.*

Root tap-shaped. *Herb* smooth and shining. *Stems* widely spreading, or floating, long, branched, furrowed, leafy. *Leaves* pinnate, or ternate, bright green; *leaflets* wedge-shaped; entire in their lower part, variously notched, often deeply lobed, in front. *Umbels* terminal and lateral; frequently almost sessile, accompanied by 1 or 2 ternate leaves; their *general rays* unequal; *partial* equal, and more numerous. *Partial bracteas* altogether wanting; nor are there any *general ones*, except the ternate leaves above mentioned, which are greatly diminished, and mostly entire. *Fl.* small, numerous, greenish white. *Fruit* almost orbicular, with permanent, wide-spreading, not reflexed, *styles*.

The *seeds*, and whole plant, in its native ditches, are acrid, and dangerous, with a peculiar strong taste and smell. By culture it becomes the mild and grateful Garden Celery, for which, and its name, we are indebted to the Italians, and which has now supplanted our native Alexanders, *Smyrnium Olusatrum*.

A. Petroselinum appears to have no claim to a place in a British Flora; nor have I ever seen it even apparently wild.

157. ÆGOPODIUM. Gout-weed.

Linn. Gen. 146. *Juss.* 219. *Fl. Br.* 333. *Gærtn. t.* 140.

Fl. all perfect and prolific, the outermost only slightly irregular. *Cal.* none. *Pet.* inversely heart-shaped, broad, with an inflexed point; the outer one, of the marginal flowers, a little the largest. *Filam.* thread-shaped, spreading, the length of the petals. *Anth.* roundish. *Germen* inferior, turbinate, slightly compressed, furrowed, oblique,

or not quite equilateral, broadest at the top. *Styles* at first short, erect, tumid and ovate at the base; subsequently elongated, thread-shaped, widely spreading and reflexed, reaching half the length of the fruit, permanent. *Stigmas* capitate. *Floral Receptacle* none. *Fruit* elliptic-oblong, solid, slightly compressed, crowned with the reflexed styles. *Seeds* oblong, imperfectly cylindrical, slightly incurved, each with 3 dorsal, and 2 marginal, prominent, equidistant ribs; the interstices nearly flat; the *juncture* close, hardly so broad as the diameter of each seed.

Herbaceous, perennial, creeping extensively. *Leaves* once or twice ternate, broad, pointed, serrated. *Umbels* terminal and axillary, large, with many *general*, as well as *partial*, roughish *rays*, entirely destitute of *bracteas*. *Fruit* rarely perfected.

1. Æ. *Podagraria.* Common Gout-weed. Herb Gerarde.

Æ. Podagraria. *Linn. Sp. Pl.* 379. *Willd. v.* 1. 1476. *Fl. Br.* 334. *Engl. Bot. v.* 14. *t.* 940. *Hook. Scot.* 95. *Fl. Dan. t.* 670. *Ehrh. Pl. Off.* 453.

Sison Podagraria. *Spreng. Prodr.* 35.

Podagraria n. 759. *Hall. Hist. v.* 1. 333. *Riv. Pentap. Irr. t.* 47.

P. germanica aut belgica. *Lob. Ic.* 700. *f.*

Angelica sylvestris minor, seu erratica. *Bauh. Pin.* 155. *Raii Syn.* 208.

A. sylvestris repens. *Moris. v.* 3. 281. *sect.* 9. *t.* 4. *f.* 11.

Herba Gerardi. *Dod. Pempt.* 320. *f. Ger. Em.* 1001. *f.*

In low moist cultivated ground, shady waste places, and under hedges.

Perennial. *May, June.*

Roots creeping to a great extent, very difficult of extirpation. *Stems* a foot or two in height, erect, leafy, hollow, furrowed, not much branched, smooth. *Lower leaves* twice ternate, stalked; *upper* simply ternate, almost sessile; the *uppermost* opposite: *leaflets* 1 or 2 inches, or more, in length, ovate, or half heart-shaped, taper-pointed, sharply serrated, smooth, dark green, more or less stalked. *Common footstalks* broadly winged at the base. *Umbels* large, convex, with numerous angular *rays*, finely downy, more especially at one side; as are likewise the more copious and slender *rays* of the *partial umbels*. There are no traces of *general* or *partial bracteas* at any time, as far as I have been able to discover. *Fl.* crowded, pure white. *Petals* broader than long, their points excepted.

The root is pungently aromatic, with some acrimony, of which fla-

vours the herb partakes. The former has been used as a cataplasm in the gout, whence the specific name.

The whole habit of this plant, with its broad ternate, not pinnate, *leaves*, many-rayed naked *umbels*, and long *styles*, so little agrees with *Sison*, that one cannot but be glad of the slightest generic mark to keep them asunder.

158. IMPERATORIA. Masterwort.

Linn. Gen. 143. *Juss.* 220. *Fl. Br.* 327. *Lam. t.* 199. *Gærtn. t.* 21.

Fl. all perfect and prolific, the outermost only very slightly irregular. *Cal.* none. *Pet.* inversely heart-shaped, with a slender incurved point; those of the outermost flowers only a little irregular. *Filam.* thread-shaped, spreading, longer than the petals. *Anth.* almost globular. *Germ.* inferior, nearly orbicular, compressed, ribbed. *Styles* short, distant, ovate and very tumid at the base. *Stigmas* capitate. *Fl. Recept.* none. *Fruit* orbicular, crowned with the bases of the styles, having a sinus at top and bottom, and a rounded, dilated, closely compressed, margin. *Seeds* convex, with 3 prominent dorsal ribs, and a broad, flat, even border, as wide at each side as the body of the seed.

Herbaceous, perennial. *Leaves* once or twice ternate, or pinnate and ternate, broad, lobed, serrated. *Umbels* terminal, large, of extremely numerous, angular *general*, as well as *partial*, *rays*, with a few bristle-shaped *partial bracteas*, but scarcely ever any *general ones*. *Fl.* white, small.

1. I. *Ostruthium.* Great Masterwort.

Leaves twice ternate, undivided or three-lobed, rough-edged. Flower-stalks alternate.

I. Ostruthium. *Linn. Sp. Pl.* 371. *Willd. v.* 1. 1458. *Fl. Br.* 371. *Engl. Bot. v.* 20. *t.* 1380. *Lightf.* 168. *Huds.* 649. *Hook. Scot.* 94. *Woodv. Med. Bot. t.* 35. *Lob. Ic.* 700. *f.*

I. n. 805. *Hall. Hist. v.* 1. 357.

Imperatoria. *Riv. Pentap. Irr. t.* 7. *Ger. Em.* 1001. *f. Camer. Epit.* 532. *f. Moris. v.* 3. 278. *sect.* 9. *t.* 4. *f.* 1.

I. major. *Bauh. Pin.* 156. *Garid. Prov. t.* 55.

Laserpitium germanicum. *Fuchs. Hist.* 763. *f.*

Astrantia. *Dod. Pempt.* 320. *f. Clus. Hist. v.* 2. 194. *f.*

Smyrnion. *Trag. Hist.* 433. *f.*

In rather moist meadows in Scotland.

On the banks of the Clyde in several places, particularly about Ardencaple, and in the isle of Bute, near Mountstuart, but whe-

ther indigenous or not is uncertain. *Lightfoot.* Haller says it is altogether an alpine plant. Professor Hooker mentions several stations in Scotland, chiefly about antient residences, indicating its being a naturalized plant.

Perennial. *June.*

Root fleshy, tuberous, somewhat creeping, of an aromatic and acrid quality, long supposed a sovereign counter-poison, and celebrated as a powerful external, as well as internal, remedy, in numerous disorders. *Stem* 1 to 2 feet high, erect, hollow, round, striated, smooth, leafy, slightly branched. *Lower leaves* on long *stalks,* twice ternate; *upper* less compound, on shorter *stalks,* with a sheathing, membranous, sometimes jagged, dilatation at the base. *Leaflets* 2 or 3 inches long, and broad in proportion, veiny, smooth on both sides, rough-edged, finely and sharply serrated, partly cut or lobed, the middle one, sometimes all three, deeply three-cleft; the uppermost often very narrow. *Umbels* broad, flattish, of about 40 smooth *general rays,* 8 or 10 inches wide when in seed; the *partial rays* still more numerous. *Fl.* small, white, or pale flesh-coloured, almost perfectly uniform and regular.

Sprengel has referred 5 new species to this genus, which originally consisted of but one; and nevertheless he makes the want of *general bracteas* the only difference between *Imperatoria* and *Selinum.* Of these 5 plants, *Selinum Chabræi* is, like other true species of *Selinum,* so widely different in its pinnate, very narrow, *leaves,* short *styles, floral receptacle,* and ribs of the *seed,* from *Imperatoria,* that no good principles can bring them together. *Selinum caucasicum* I know nothing of; nor have I seen *Imperatoria angustifolia* of Bellardi. *Angelica lucida* and *verticillaris* of Linnæus do indeed appear to be justly removed by Professor Sprengel to *Imperatoria,* and I have therefore given to our British species a discriminating specific character. The great breadth of the wings in *Imperatoria,* each of which is at least as broad as the disk or body of the *seed;* the deep *sinus* at the base; and the *ribs* being not bordered or winged, distinguish this genus from *Angelica.*

159. ANGELICA. Angelica.

Linn. Gen. 138. *Juss.* 222. *Fl. Br.* 311. *Lam. t.* 198. *Gærtn. t.* 85.

Fl. all perfect, prolific, and regular. *Cal.* none. *Pet.* 5, equal, lanceolate, flattish, with an inflexed point; their base contracted. *Filam.* thread-shaped, spreading, longer than the corolla. *Anth.* roundish. *Germen* inferior, ovate, strongly furrowed. *Styles* in the flower very short, erect, broad and tumid at the base; subsequently elongated, recurved. *Stigmas* capitate. *Floral Receptacle* thin, wavy, projecting a little beyond the bases of the styles as the

fruit advances to maturity. *Fruit* elliptical, slightly compressed, bordered, crowned with the *fl. recept.* and spreading *styles. Seeds* convex and oblong, with 3 elevated, longitudinal, dorsal wings, a little distant from their lateral flat border, which scarcely exceeds the wings in breadth; interstices more or less wrinkled.

Large, herbaceous, aromatic and wholesome plants, with round, hollow *stems;* repeatedly compound, pinnate, very large, serrated *leaves;* and terminal, many-rayed *umbels. General bracteas* few or none; *partial* numerous; all linear and narrow, though the latter occasionally become leafy and serrated. *Fl.* greenish, or white, numerous, rather small.

*1. A. *Archangelica.* Garden Angelica.

Terminal leaflet lobed.

A. Archangelica. *Linn. Sp. Pl.* 360. *Willd. v.* 1. 1428. *Fl. Br.* 311. *Engl. Bot. v.* 36. *t.* 2561. *With.* 297. *Woodv. Med. Bot. t.* 50. *Winch Guide v.* 1. 27.

A. n. 807. *Hall. Hist. v.* 1. 358.

A. sativa. *Bauh. Pin.* 155. *Bauh. Hist. v.* 3. *p.* 2. 140. *f. Ger. Em.* 999. *f. Dill. in Raii Syn.* 208. *Matth. Valgr. v.* 2. 513. *f. Fuchs. Hist.* 124. *f.*

Angelica. *Riv. Pentap. Irr. t.* 15. *Pet. H. Brit. t.* 24. *f.* 9. *Lob. Ic.* 698. *f. Camer. Epit.* 899. *f. Trag. Hist.* 421. *f.*

A. major. *Dod. Pempt.* 318. *f.*

In watery places, rare, apparently a naturalized plant.

At Broadmoore, about 7 miles north-west from Birmingham. *With.* About the Tower of London, and on the banks of ditches, frequent. *Doody.* In marshes, among reeds, by the side of the Thames, between Woolwich and Plumstead, very abundantly. *Mr. Girard.* In the county of Durham. *Mr. W. Backhouse.*

Biennial. *June—September.*

Root large, fleshy, branched, resinous, pungently aromatic. *Stem* erect, 4 or 5 feet high, and from 1 to 2 inches in diameter, leafy, branched in the upper part, striated, polished, a little glaucous. The *foliage, stalks,* and even the *flowers,* are all of a bright green. *Leaves* 2 or 3 feet wide, ternate, then pinnate, very smooth; *leaflets* ovate-lanceolate, acute, cut and sharply serrated, partly decurrent, the odd one deeply 3-lobed. *Footstalks,* at the base, excessively dilated and tumid, pale and rather membranous, with many ribs. *Umbels,* both *general* and *partial,* nearly globose, the *rays* of both very numerous, spreading, downy. *General Bracteas* few, linear, deciduous, often wanting; *partial* about 8, linear-lanceolate, short; occasionally enlarged, leafy, and notched, as in the figure named *Archangelica,* in *Dod. Pempt.* 318;

Ger. Em. 1000, *Clus. Hist. v.* 2. 195, and *Bauh. Hist. v.* 3. *p.* 2. 143, which may very probably be this species.

The candied stalks are acceptable to most people, being, when so prepared, not too powerfully aromatic. Of the antipestilential virtues of the root, those who wish to be informed, will find amusement, at least, in old Gerarde.

2. A. *sylvestris*. Wild Angelica.

Leaflets equal, ovate, serrated.

A. sylvestris. *Linn. Sp. Pl.* 361. *Willd. v.* 1. 1429. *Fl. Br.* 311. *Engl. Bot. v.* 16. *t.* 1128. *Woodv. suppl. t.* 265. *Hook. Scot.* 90. *Raii Syn.* 208. *Ger. Em.* 999. *f.* *Dod. Pempt.* 318. *f.* *Trag. Hist.* 422. *f.* *Fuchs. Hist.* 125. *f.* *Matth. Valgr. v.* 2. 514. *f.* *Camer. Epit.* 900. *f.*

A. n. 806. *Hall. Hist. v.* 1. 358.

A. sylvestris major. *Bauh. Pin.* 155.

A. palustris. *Riv. Pentap. Irr. t.* 17.

Water Angelica. *Pet. H. Brit. t.* 24. *f.* 10.

In watery places, alder cars, and the margins of rivers, common. Perennial. *July.*

Much smaller than the foregoing. *Root* large and fleshy. *Stem* leafy, round, polished, often purple, with wide-spreading branches. *Leaves* doubly pinnate, a little glaucous; *leaflets* ovate, or ovate-lanceolate, sharply, often unequally, serrated, their ribs and veins sometimes downy. *Footstalks*, of the stem-leaves especially, inflated like the last. *Umbels* convex, with numerous, downy, *general* and *partial rays*. *General bracteas* very few, long and narrow; *partial* similar, but smaller and more numerous. *Fl.* white, or more generally flesh-coloured. *Styles* purple.

The flavour is more bitter, and less grateful, than the *Archangelica*, but the virtues of both are similar.

160. LIGUSTICUM. Lovage.

Linn. Gen. 137. *Juss.* 222. *Fl. Br.* 309. *Tourn. t.* 171. *Lam. t.* 198. *Gærtn. t.* 85.

Fl. all perfect, prolific, and regular. *Cal.* of 5 small, pointed, erect, permanent leaves; broad at the base. *Pet.* 5, elliptical, flattish, with an inflexed point; their base contracted. *Filam.* thread-shaped, spreading, shorter than the corolla. *Anth.* roundish. *Germ.* oblong, abrupt, moderately compressed, furrowed. *Styles* in the flower scarcely longer than the calyx, erect, stout, angular, tumid at the base; subsequently a little elongated, spreading, permanent. *Stigmas* simple. *Fl. Recept.* none. *Fruit* elliptic-oblong, rather compressed, crowned with the calyx

and styles. *Seeds* oblong, each with 3 dorsal and 2 marginal, equal, longitudinal wings.

Perennial aromatic herbs, with smooth, compound, ternate or pinnate, notched or deeply cut, *leaves*. *Umbels* terminal, compound, of numerous, *general* and *partial*, angular *rays*. *Bracteas general* and *partial*, membranous at the edges. *Fl.* white, or reddish.

1. L. *scoticum*. Scottish Lovage.

Leaves twice ternate.

L. scoticum. *Linn. Sp. Pl.* 359. *Willd. v.* 1. 1424. *Fl. Br.* 309. *Engl. Bot. v.* 17. *t.* 1207. *Hook. Scot.* 89. *Fl. Dan. t.* 207.

L. scoticum, apii folio. *Raii Syn.* 214.

L. humilius scoticum à maritimis. *Pluk. Alm.* 217. *Phyt. t.* 96. *f.* 2.

Imperatoriæ affinis umbellifera maritima scotica. *Sibb. Scot. p.* 2. 32. *t.* 12. *f.* 3, bad.

Seseli maritimum scoticum humile, foliis Imperatoriæ. *Herm. Parad.* 227. *f.*

S. scoticum. *Riv. Pentap. Irr. t.* 59.

Scotch Parsley. *Pet. H. Brit. t.* 26. *f.* 11.

On the sea coasts of Scotland, and the north of England.

About the Frith of Forth, in many places; also on the western coast. *Fl. Brit.* Very frequent on the rocky coasts of Scotland. *Hooker.* At Dunstonburgh castle, Northumberland. *Mr. Winch.*

Perennial. *July.*

Root tap-shaped, warm and pungent. *Stem* a foot high, round, striated, smooth, somewhat leafy; slightly branched in the upper part. *Leaves* stalked, twice ternate; the uppermost simply ternate; *leaflets* rhomboid, broad, acute, rather fleshy, veiny, smooth, serrated, sometimes unequally notched; entire towards the base. *Footstalks* bordered, with a purplish compressed membrane, at the base. *Umbels* smooth, not very large. *General bracteas* oblong, unequal, partly leafy, entire; *partial* more numerous, lanceolate, somewhat unequal. *Fl.* white, with a reddish tinge. *Anth.* red.

The herb is eaten, either crude or boiled, by the natives of Scotland and its isles. The flavour is highly acrid, and though aromatic, and perhaps not unwholesome, very nauseous to those who are unaccustomed to such food.

2. L. *cornubiense*. Cornish Lovage.

Radical leaves twice or thrice pinnate, rough-edged, cut; stem-leaves ternate, lanceolate, entire. Ribs of the seeds bluntish.

L. cornubiense. *Linn. Sp. Pl.* 359. *Willd. v.* 1. 1426. *Fl. Br.* 310. *Engl. Bot. v.* 10. *t.* 683. *Ic. Pict. t.* 11. *With.* 297.

Smyrnium tenuifolium nostras. *Raii Hist. v.* 3. 254. *Dill. in Raii Syn.* 209. *t.* 8.
Cornwall Saxifrage. *Pet. H. Brit. t.* 26. *f.* 9.

In bushy fields in Cornwall.
First found by Mr. Stevens. *Dill.* About Bodmin. *Mr. Pennington, Dr. Withering, Mr. E. Forster, and others.*
Perennial. *July.*
Root spindle-shaped, contracted at the crown, descending to a great depth; when wounded, discharging a yellow resinous juice. *Stem* 2 or 3 feet high, solitary, erect, branched, round, striated, roughish, purple at the base, slightly leafy. *Leaves* deep green; the *radical* ones on long, purplish, angular, roughish *footstalks*, twice or thrice pinnate, broader than they are long; *leaflets* wedge-shaped, sharply cut, rough at the nerves and margin with minute, depressed, bristly points. *Stem-leaves* (mistaken by Linnæus, in Dillenius's figure, for radical ones) of 3 linear-lanceolate, acute, entire leaflets: the uppermost of all simple. *Umbels* terminal, erect, of several *general*, as well as *partial*, smooth, angular *rays*. *General bracteas* from 4 to 8, lanceolate, or somewhat ovate, acute, much shorter than the rays; *partial ones* similar, equal to the partial rays. *Calyx* somewhat coloured, concave, conspicuous. *Petals* white, very slightly irregular in the outermost flowers only, obovate, or inversely heart-shaped, with an incurved, notched point. *Anth.* yellow. *Fl. Recept.* none. *Styles* tumid, and almost globular, at the base, erect, shorter than the petals; subsequently spreading, and finally horizontal, almost as long as the half-ripe fruit, permanent. *Stigmas* bluntish. *Fruit*, which I have not seen quite ripe, solid, ovate, a little compressed, abrupt, crowned with the whitish calyx, and spreading styles, and having 5 stout, prominent, equal ribs, with deep intermediate furrows, to each *seed*. *Juncture* apparently very narrow. *Seeds* ovate, flattened at the inner side; externally convex. All the *flowers* appear to be perfect and prolific.

This rare plant, which remained, for half a century after its first discovery, entirely unobserved, has been confidently asserted to be the identical *Danaa* of Allioni, *Physospermum* of Cusson and of Sprengel, *Prodr.* 19. The herbage of the two plants is indeed so very similar, that it is hardly possible to believe them generically distinct. *Physospermum* however has separated *flowers*, the barren ones most numerous, and is essentially characterized, as the excellent name imports, by having a loose, bladdery, inflated *skin* to the *seeds;* the *fruit* being, in every stage of growth, a double globe, smooth, polished, at length acquiring slightly prominent ribs, and being crowned with the strongly recurved *styles*. The *seeds* within are solid, nearly hemispherical, irregularly furrowed. Of this genus there are 2 species, 1st *Ph. aquilegifolium*, which is Allioni's *Danaa; Laser-*

pitium aquilegifolium of Willdenow; *Sison sylvaticum* of Brotero, *Phyt. Lusit.* 35; and 2nd *Smyrnium nudicaule, Marsch. Taur. Caucas. v.* 1. 238. The first has rough-edged *leaves*, and is much stouter in every part than the second. Our Cornish plant has been improperly confounded with these two, and, as far as its *fruit* is known, answers best to *Ligusticum*.

161. MEUM. Spignel, or Fennel.

Tourn. Inst. 312. *t.* 165. *Fl. Br.* 308. *Spreng. Prodr.* 32. *Gærtn. t.* 23.

Fœniculum. *Tourn. t.* 164. *Gærtn. t.* 23.

Fl. all uniform, perfect, and prolific. *Cal.* none. *Pet.* 5, equal, obovate, with an inflexed point. *Filam.* about the length of the petals, spreading, incurved. *Anth.* roundish. *Germ.* inferior, ovate, striated, abrupt, a little compressed. *Styles* tumid at the base, very short in the flower, afterwards a little elongated and recurved. *Stigmas* simple. *Fl. Recept.* none. *Fruit* elliptic-oblong, very slightly compressed, contracted at the summit, and crowned with the permanent styles. *Seeds* convex, with 3 dorsal and 2 marginal, equidistant prominent ribs, the interstices nearly flat and even. *Juncture* nearly as broad as the seeds.

Herbaceous, aromatic, with finely divided *leaves*. *Umbels* compound. *Bracteas* various. *Fl.* cream-coloured, or yellow.

1. M. *athamanticum*. Spignel, Meu, or Bald-money.

Leaflets all in numerous, deep, bristle-like, segments. Bracteas both general and partial.

M. athamanticum. *Jacq. Austr. v.* 4. 2. *t.* 303. *Spreng. Prodr.* 32. *Fl. Br.* 308. *Engl. Bot. v.* 32. *t.* 2249. *Gærtn. v.* 1. 105.

Meum. *Raii Syn.* 207. *Ger. Em.* 1052. *f. Dod. Pempt.* 305. *f. Matth. Valgr. v.* 1. 22. *f. Camer. Epit.* 7. *f. Riv. Pentap. Irr. t.* 63.

M. foliis anethi. *Bauh. Pin.* 148.

M. vulgare tenuifolium. *Moris. v.* 3. 270. *sect.* 9. *t.* 2. *f.* 2.

Athamanta Meum. *Linn. Sp. Pl.* 353. *Huds.* 116. *Dicks. H. Sicc. fasc.* 11. 7.

A. n. 761. *Hall. Hist. v.* 1. 334.

Æthusa Meum. *Linn. Syst. Veg. ed.* 13. 237. *ed.* 14. 287. *Willd. Sp. Pl. v.* 1. 1447. *With.* 305.

Ligusticum Meum. *Crantz Austr. fasc.* 3. 82. *Sm. in Rees's Cycl. v.* 21. *Comp.* 46. *Hook. Scot.* 89.

Daucus creticus. *Trag. Hist.* 445. *f. Fuchs. Hist.* 231. *f.*

In mountainous pastures in the North.

In Westmoreland, the north of Yorkshire, and Merionethshire. *Ray.* In Lancashire; and abundantly in the Highlands of Scotland.

Perennial. *May, June.*

Root thick and woody, crowned with the fibrous remains of old footstalks. *Stems* erect, from 1 to 2 feet high, round, hollow, leafy, striated, not much branched. *Leaves* oblong, doubly pinnate, dark green, smooth; *leaflets* opposite, in numerous, capillary, very delicate, pointed segments. *Footstalks* dilated and membranous at the base. *Umbels* erect, of numerous general and partial rays. *General bracteas* few, linear or lanceolate, mostly three-cleft, often wanting; *partial* more numerous, either entire or cut. *Fl.* numerous, yellowish-white, occasionally reddish. *Petals* sometimes inversely heart-shaped, but slightly. *Fruit* 1-4th of an inch long, somewhat curved, smooth.

The whole plant, and especially the root, is highly aromatic, with a flavour like Melilot, which it communicates to milk and butter, from the cows feeding upon its herbage, in spring. A strong infusion of this herb is said to give cheese the taste and odour of the Swiss *Chapziegar.* See *Engl. Bot.*

This plant, concerning whose genus botanists have been so various and uncertain, was thought by Tournefort very nearly akin to his *Fœniculum*, which comprises, among many other things, our common, or sweet, Fennel. The presence of *bracteas* forms the chief objection, as to habit; but this is rather an instance of their uncertainty for a generic character.

2. M. *Fœniculum.* Common Fennel.

Leaves triply pinnate; leaflets awl-shaped, drooping. Bracteas none.

M. Fœniculum. *Spreng. Prodr.* 32.

Anethum Fœniculum. *Linn. Sp. Pl.* 377. *Willd. v.* 1. 1469. *Fl. Br.* 329. *Engl. Bot. v.* 17. *t.* 1208. *Mill. Illustr. t.* 13. *Woodv. Med. Bot. t.* 160. *Ehrh. Pl. Off.* 213.

Fœniculum. *Matth. Valgr. v.* 2. 135. *f. Camer. Epit.* 534. *f. Fuchs. Hist.* 501. *f. Riv. Pentap. Irr. t.* 61.

F. n. 760. *Hall. Hist. v.* 1. 333.

F. dulce. *Bauh. Pin.* 147.

F. vulgare. *Raii Syn.* 217. *Ger. Em.* 1032. *f. Gœrtn. v.* 1. 105.

On chalky cliffs, very plentiful.

Biennial. *July, August.*

Root tap-shaped. *Herb* smooth, of a deep, glaucous green. *Stem* 3 or 4 feet high, erect, copiously branched, solid, round, striated, smooth, leafy. *Leaves* triply pinnate; *leaflets* thread-like, acute, long, more or less drooping. *Footstalks* with a broad, firm, sheathing base. *Umbels* terminal, very broad, flat, of very numerous, smooth, angular, rather stout, *rays*; the *partial rays*

much more slender, short, very unequal. *Bracteas* entirely wanting. *Calyx* none. *Petals* obovate, with a broad, obtuse, inflexed point, altogether of a golden yellow, as well as the *stamens*. *Styles* very short, with a large, ovate, pale-yellow base. No *floral receptacle*.

The taste and aromatic qualities of this, our garden Fennel, are well known. The sweet and warm seeds are a common carminative medicine for infants.

162. CARUM. Caraway.

Linn. Gen. 145. *Juss.* 219. *Fl. Br.* 330. *Gærtn. t.* 23.
Carui. *Tourn. t.* 160.

Fl. separated, rather irregular; the innermost barren; those of the circumference perfect and prolific. *Cal.* of 5 very minute, acute leaves, often obsolete. *Pet.* 5, somewhat unequal, inversely heart-shaped, with inflexed points. *Filam.* about as long as the petals, straight, spreading. *Anth.* roundish, 2-lobed. *Germ.* inferior, ovate, abrupt, more or less oblique. *Styles* tumid at the base, very short in the flower, afterwards elongated, thread-shaped, widely spreading. *Stigmas* bluntish. *Fl. Recept.* annular, thin, wavy, extending beyond the bases of the styles, permanent. *Fruit* elliptic-oblong, moderately compressed, crowned with the floral recept. and styles. *Seeds* nearly cylindrical, contracted at each end, with 3 dorsal, and 2 marginal, acute, slender ribs, the interstices somewhat convex, smooth. *Juncture* close, as broad as the seeds.

Herbaceous, biennial, smooth, with oblong, doubly pinnate, finely cut *leaves*. *Umbels* terminal, compound, with unequal rays. *Partial bracteas* either numerous or none; *general* 1, 2 or 3, often membranous at the base, frequently wanting. *Fl.* white. *Seeds* aromatic.

1. C. *Carui*. Common Caraway.

Stem branched. Partial bracteas none.

C. Carui. *Linn. Sp. Pl.* 378. *Willd. v.* 1. 1470. *Fl. Br.* 330. *Engl. Bot. v.* 21. *t.* 1503. *Hook. Scot.* 95. *Mart. Rust. t.* 55. *Woodv. Med. Bot. t.* 45. *Jacq. Austr. t.* 393.

C. n. 789. *Hall. Hist. v.* 1. 351.

Carum. *Dod. Pempt.* 299. *f.* *Matth. Valgr. v.* 2. 114. *f.* *Camer. Epit.* 516. *f.* *Riv. Pentap. Irr. t.* 55. *Moris. v.* 3. 296. *sect.* 9. *t.* 9. *f.* 1, Cuminum. Leaves bad.

C. seu Careum. *Raii Syn.* 213. *Ger. Em.* 1034. *f.*

Caros. *Trag. Hist.* 455. *f.* *Fuchs. Hist.* 396. *f.* *Bauh. Hist. v.* 3. *p.* 2. 69. *f.*

In meadows and pastures; a naturalized plant.

Biennial. *June.*

Root tapering. *Stem* about 2 feet high, erect, branched, leafy, angular and furrowed. *Lower leaves* nearly a span long, stalked, doubly pinnate, with numerous, opposite, finely cut *leaflets*, of which the pairs next the midrib cross each other: those on the stem much smaller, opposite, very unequal, one of them on a dilated, lax, ribbed, membranous-edged *footstalk*; the other sessile. *Umbels* numerous, erect. *General bracteas*, if present, capillary, connected, when more than one, by a membranous base. *Fl.* numerous, white, or pale flesh-coloured; the marginal (not central) ones only, perfect and prolific. *Cal.* always extremely minute, and not constantly complete, or discernible. *Pet.* small, convex, in the middle flowers nearly equal. *Fl. Recept.* white, undulated, very distinct from the bases of the *styles*. *Seeds* greyish-brown.

This plant is cultivated for the sake of its seeds, which are in daily use as a grateful and wholesome aromatic.

163. ATHAMANTA. Stone-parsley.

Linn. Gen. 133. *Juss.* 223. *Fl. Br.* 303. *Spreng. Prodr.* 25. *Lam. t.* 194.

Fl. imperfectly separated, regular, the innermost more or less abortive. *Cal.* of 5 spreading, ascending, lanceolate, acute, permanent leaves. *Pet.* 5, almost perfectly equal, inversely heart-shaped, with a broad inflexed point. *Filam.* thread-shaped, spreading, incurved, longer than the petals. *Anth.* roundish. *Germen* inferior, ovate, furrowed, downy, abrupt. *Styles* in the flower short, erect, each with a large, tumid, ovate base; subsequently spreading as far as the calyx, or further; finally reflexed, permanent. *Stigmas* simple, bluntish. *Fl. Recept.* wanting. *Fruit* ovate, scarcely compressed, ribbed, clothed, more or less, with loosely spreading, shortish hairs, and crowned by the calyx and styles. *Seeds* ovate, each with 5 equidistant, prominent, stout ribs. *Juncture* close, as broad as the seeds.

Stem angular, deeply furrowed. *Leaves* oblong, repeatedly pinnate, finely cut, flat. *Umbels* terminal, compound, of numerous, furrowed, downy *rays*, with *general* and *partial*, narrow *bracteas*. *Fl.* white or reddish. *Seeds* small, somewhat aromatic.

From this genus, of which our British species forms the type, and to which *A. pyrenaica* of Jacquin (perhaps the same species), with some others, certainly belongs, the *Libanotis* of Gærtner ought, I think, to be removed, as

having an elliptic-oblong *fruit*, and no *calyx*. The foliage moreover is of a very different character. I am not entirely convinced that the kind of hairiness observed on the *fruit* of *Athamanta*, is a good generic, or even a specific mark, however important the prickles of *fruits*, properly termed *armed*, in this natural order, may be.

1. A. *Libanotis*. Mountain Stone-parsley.

Leaves doubly pinnate, cut. Umbels hemispherical.

A. Libanotis. *Linn. Sp. Pl.* 351. *Willd. v.* 1. 1400. *Fl. Br.* 304. *Engl. Bot. v.* 2. *t.* 138. *Huds. ed.* 1. 100. *Relh. ed.* 1. 113. *f. With.* 283. *Jacq. Austr. t.* 392. *Fl. Dan. t.* 754. *Spreng. Spec. Umb.* 37.

A. Oreoselinum. *Huds. ed.* 2. 115. *With.* 283. Not of Linnæus.

Ligusticum n. 757. *Hall. Nomencl.* 69.

Libanotis. *Riv. Pentap. Irr. t.* 37.

L. n. 744. *Hall. Hist. v.* 1. 325.

Apium petræum, seu montanum, album. *Bauh. Hist. v.* 3. *p.* 2. 105. *f. Raii Syn.* 218.

Daucus montanus, pimpinellæ saxifragæ hircinæ folio, nostras, Dubriensis. *Pluk. Almag.* 129. *Phyt. t.* 173. *f.* 1.

In elevated chalky pastures, but rare.

On Gogmagog hills, Cambridgeshire. *Ray, Relhan.* Between St. Albans and Stoney Stratford. *Hudson.*

Perennial. *August.*

Root tapering, a little woody, bitterish and pungent, crowned with the fibrous remains of old *footstalks*. *Herbage* extremely variable in luxuriance. *Stem* from 1 to 2 or 3 feet high, firm, erect, angular and deeply furrowed, solid, smooth, leafy principally in the lower part. *Radical leaves* stalked, twice or thrice pinnate, in foreign specimens still more compound; *leaflets* opposite, deeply and sharply cut, smooth; the lowermost crowded, and often crossing each other. *Umbels* terminal, on long, upright, furrowed stalks, convex, of many stout, angular, downy *general rays*, and still more numerous *partial* ones. *Bracteas* both *general* and *partial* numerous, linear-lanceolate, taper-pointed, downy. *Fl.* crowded, white or reddish. The *styles* and their tumid bases assume a violet hue after the flowers are past. The *umbels* are sometimes proliferous. Whether the hairiness of the *fruit* be an essential character or not, this plant cannot belong to *Ligusticum*, as the ribs of that part are not winged.

164. PIMPINELLA. Burnet-saxifrage.

Linn. Gen. 145. *Juss.* 219. *Fl. Br.* 331. *Lam. t.* 203.

Tragoselinum. *Tourn. t.* 163.

Fl. regular, either perfect, or diœcious. *Cal.* none. *Pet.* 5,

equal, or very nearly so, inversely heart-shaped, with an inflexed point. *Filam.* capillary, spreading, longer than the corolla. *Anth.* roundish. *Germ.* inferior, ovate, a little compressed, smooth, finely ribbed. *Styles* capillary, somewhat spreading, short in the flower, afterwards as long as the fruit, or longer; tumid, and nearly globular, at the base. *Stigmas* obtuse, somewhat capitate. *Fl. Recept.* none. *Fruit* ovate, crowned with the long, capillary, slightly spreading, permanent styles. *Seeds* ovate, each with 5 rather sharp, not very prominent, ribs; the interstices convex. *Juncture* contracted, linear.

Perennial, rather harsh and rigid, *herbs*, with a very pungent, slightly aromatic, flavour. *Leaves* usually pinnate, oblong, with roundish, or finely cut, *leaflets*, excessively various in their subdivisions. *Umbels* compound, drooping when young. *Bracteas* none. *Fl.* white, or reddish.

1. P. *saxifraga*. Common Burnet-saxifrage.

Leaves pinnate; leaflets of the radical ones roundish; of the uppermost in various linear segments.

P. saxifraga. *Linn. Sp. Pl.* 378. *Willd. v.* 1. 1471. *Fl. Br.* 331. *Engl. Bot. v.* 6. *t.* 407. *Mart. Rust. t.* 127. *Sibth.* 102. *Abbot* 68. *Hook. Scot.* 95. *Fl. Dan. t.* 669. *Jacq. Austr. t.* 395. *Spreng. Spec. Umb.* 115.

P. saxifraga minor. *Bauh. Pin.* 160. *Raii Syn.* 213.

P. saxifraga minor, foliis sanguisorbæ. *Raii Syn.* 213.

P. saxifraga vulgaris, pimpinellæ minoris folio; *also* minor foliis dissectis. *Moris. v.* 3. 285. *sect.* 9. *t.* 5. *f.* 6 & 7.

P. minor. *Camer. Epit.* 776. *f. Riv. Pentap. Irr. t.* 83; *and* P. media, *t.* 82.

P. dissecta. *Retz. Obs. fasc.* 3. 30. *t.* 2. *Sibth.* 102. *Abbot* 68.

Tragoselinum n. 786, 787. *Hall. Hist. v.* 1. 350.

Bipinella, sive Saxifraga minor. *Ger. Em.* 1044. *f.*

In dry gravelly or chalky pastures.

Perennial. *July, August.*

Root tough and woody, highly aromatic and pungent, not unpleasant. *Stems* from 1 to 2 feet high, solid, round, striated, downy, branched, leafy. *Leaves* stalked, oblong, pinnate; *leaflets*, of the lowermost especially, ovate, veiny, deeply serrated and cut; of the upper ones, and sometimes of all, simply or doubly pinnatifid, with acute, spreading, decurrent segments; nor are these differences so constant as to mark even a distinct variety; they are all comprehended under the above synonyms. *Umbels* of many *general* and *partial* smooth rays, drooping when young, without any *bracteas*. *Fl.* white, small, as well as the *seeds*. Tumid bases of the *styles* reddish.

2. P. *magna*. Greater Burnet-saxifrage.

Leaves pinnate; leaflets all ovate, serrated, somewhat cut; the terminal one three-lobed.

P. magna. *Linn. Mant.* 2. 219. *Willd. v.* 1. 1471. *Fl. Br.* 331. *Engl. Bot. v.* 6. *t.* 408. *Spreng. Sp. Umb.* 117. *Ehrh. Pl. Off.* 433.
P. major. *Huds.* 127. *Jacq. Austr. t.* 396. *Fuchs. Hist.* 608. *f. Lob. Ic.* 720. *f.*
P. saxifraga. *Raii Syn.* 213. *Ger. Em.* 1044. *f. Matth. Valgr. v.* 2. 379. *f.* bad. *Camer. Epit.* 775. *f.*
P. saxifraga major, umbellâ candidâ. *Moris. v.* 3. 284. *sect.* 9. *t.* 5. *f.* 1.
Tragoselinum n. 785. *Hall. Hist. v.* 1. 349.

In shady places and under hedges, on a chalky, or limestone, soil, in several parts of England.
In Scotland. *Herb. Bruce.*
Perennial. *July, August.*
Root weaker in flavour than the preceding. *Herb* taller, larger in all its parts, especially the *leaflets*, which, in Britain at least, are not subject to be subdivided; they are ovate-oblong, smooth, shining, sometimes slightly lobed, or cut, always strongly serrated; the odd one always, more or less deeply, three-lobed. *Umbels* of many slender rays, without any *bracteas*. *Fl.* white; we have not the elegant alpine rose-coloured variety. *Styles* capillary, sometimes even longer than the fruit. Some *flowers* seem to be abortive, in the central part of the *partial umbels*.

3. P. *dioica*. Dwarf Burnet-saxifrage.

Leaflets all nearly linear. Umbels panicled. Flowers dioecious.

P. dioica. *Linn. Syst. Veg. ed.* 13. 241. *Willd. v.* 1. 1474. *Fl. Br.* 332. *Engl. Bot. v.* 17. *t.* 1209. *Wade Pl. Rar. Hibern.* 22.
P. pumila. *Jacq. Enum. Vind.* 52. 227. *Austr. t.* 28.
Seseli pumilum. *Linn. Sp. Pl.* 373.
Tragoselinum n. 788. *Hall. Hist. v.* 1. 350.
Peucedanum minus. *Bauh. Pin.* 149. *Raii Syn.* 217. *Huds. ed.* 1. 101.
P. pumilum. *Ger. Em.* 1054. *f.*
P. facie, pusilla planta. *Lob. Ic.* 745. *f.*
Selinum montanum pumilum. *Clus. Hist. v.* 2. 200. *f. Bauh. Hist. v.* 3. *p.* 2. 17. *f.* 18.
Saxifraga montana minor, foliis peucedani. *Moris. v.* 3. 274. *sect.* 9. *t.* 2. *f.* 15.

On limestone rocks in a warm exposure, but rare.
On St. Vincent's rock, near Bristol. *Ray.* Above Uphill, Somersetshire. *Hudson.* In pastures near the church of Athboy, County of Meath, Ireland, in great quantities. *Dr. Wade.*
Perennial. *May, June.*

Root tapering, fleshy. Whole *herb* smooth and glaucous. Barren plants most humble in size, and less spreading; fertile ones about a foot high. *Stem* erect, branched from the very bottom, leafy, angular, furrowed, purplish. *Leaves* oblong, doubly pinnate; radical ones on long *footstalks*, the rest with only short, dilated, membranous ones; *leaflets* uniform, linear-lanceolate, or quite linear, entire; three occasionally combined at the end of the leaf. *Umbels* numerous, simple or compound, panicled, erect without any *bracteas;* their *rays* angular, smooth. *Fl.* cream-coloured, numerous, small; the *barren* ones mostly without even the rudiments of a *germen*; *fertile* furnished with imperfect *anthers*. *Stigmas* capitate, almost globular. *Fruit* elliptic-ovate, often deprived of the *styles*, which, when permanent, are small and inconspicuous.

165. CNIDIUM. Pepper-saxifrage.

Cusson Mss. Spreng. Prodr. 39. *f.* 3.

Fl. nearly regular, imperfectly separated, the innermost more or less abortive. *Cal.* none. *Pet.* 5, equal, obovate, or inversely heart-shaped, with an inflexed point. *Filam.* thread-shaped, rather spreading, as long as the petals. *Anth.* roundish. *Germ.* inferior, ovate, obtuse, slightly compressed, ribbed. *Styles* in the flower very short, afterwards elongated, spreading, cylindrical, half the length of the fruit, tumid and nearly hemispherical at the base. *Stigmas* blunt. *Fl. Recept.* annular, thin, undulated; at first erect; subsequently depressed by the swelling bases of the styles. *Fruit* ovate, a little compressed, somewhat contracted at the upper part, crowned with the floral receptacle, and permanent, spreading or recurved, styles. *Seeds* ovate, solid, with 5 equidistant, acute, slightly winged, ribs; the interstices deep, concave, or obtusangular. *Juncture* channelled, contracted.

Branching, acrid or fetid, herbs, with repeatedly compound, cut, narrow *leaves*. *Umbels* terminal, of several *general* and *partial rays*. *General bracteas* few, or none; *partial* several, linear-lanceolate. *Fl.* white or yellowish. *Seeds* acrid, nauseous. The name is an antient appellation of some hot kind of grain.

1. C. *Silaus*. Meadow Pepper-saxifrage.

Leaflets deeply pinnatifid; their segments opposite, decurrent. General bracteas one or two.

C. Silaus. *Spreng. Prodr.* 40.

Peucedanum Silaus. *Linn. Sp. Pl.* 354. *Willd. v.* 1. 1406. *Fl. Br.* 305. *Engl. Bot. v.* 30. *t.* 2142. *Mart. Rust. t.* 128. *Hook. Scot.* 88. *Jacq. Austr. t.* 15. *Ehrh. Pl. Off.* 373.

P. n. 797. *Hall. Hist. v.* 1. 354.

Seseli pratense. *Bauh. Pin.* 162. *Riv. Pentap. Irr. t.* 58. *Dalech. Hist.* 752. *f.*

S. pratense nostras. *Raii Syn.* 216. *Moris. v.* 3. 287. *sect.* 9. *t.* 6. *f.* 10.

S. pratense monspelliensium. *Lob. Ic.* 738. *f.*

Saxifraga anglicana, facie Seseli pratensis. *Ger. Em.* 1047. *f.*

Meadow Saxifrage. *Pet. H. Brit. t.* 28. *f.* 5.

In rather moist meadows and pastures.

Perennial. *August, September.*

Root spindle-shaped. *Herb* smooth, dark green. *Stem* erect, branched, leafy, round, furrowed, solid, tough, from 1 to 2 feet high. *Leaves* doubly pinnate; *leaflets* elliptic-lanceolate, minutely pointed, entire; either undivided, or separated, almost to the base, into 2 or 3 segments, of the same shape and magnitude. *Umbels* on long stalks, erect, of several unequal *general rays*, those of the *partial umbels* much more numerous. *General bracteas* white-edged, linear, 1 or 2, rarely 3, most frequently none at all; when present, lasting, not deciduous; *partial ones* several, of the same shape, equal to the partial rays. *Fl.* yellowish or greenish-white, with a thin *floral receptacle*, at first green and erect, but as the fruit advances, spreading, depressed, confluent with the broad convex bases of the *styles*, and assuming their reddish colour. *Fruit* roundish-ovate.

The whole plant, being fetid when bruised, is supposed in some parts of Norfolk to give a bad flavour to milk and butter; but cattle certainly do not eat it; except accidentally, or in small quantities, sufficient perhaps to have the effect in question. Where this herb abounds in pastures, it may be found partially cropped, though generally left almost entire.

Peucedanum alsaticum of Linnæus, having a *calyx*, and a flattened bordered *fruit*, is really of that genus, and no *Cnidium*, though resembling our present species in habit.

166. BUPLEURUM. Hare's-ear.

Linn. Gen. 129. *Juss.* 224. *Fl. Br.* 292. *Spreng. Prodr.* 38. *Tourn. t.* 163. *Lam. t.* 189. *Gærtn. t.* 22.

Odontites. *Spreng. Prodr.* 33.

Fl. all regular, perfect and prolific. *Cal.* none. *Pet.* 5, equal, broadish wedge-shaped, very short, with a broad involute point. *Filam.* thread-shaped, spreading rather beyond the corolla. *Anth.* roundish. *Germen* inferior, ovate-oblong, furrowed. *Styles* very short, spreading, not extending beyond the circumference of their broad, tumid, rather depressed, bases. *Stigmas* simple, minute.

Fl. Recept. none, unless the dilated margin of the tumid bases of the styles may be taken for such. *Fruit* ovate-oblong, obtuse, solid, a little compressed, crowned with the very short permanent styles. *Seeds* somewhat cylindrical, each with 5, prominent, acute, or slightly bordered, ribs; the interstices flat, either smooth, granulated, or irregularly wrinkled; the summit of each rib abrupt, or angular. *Juncture* narrower than the seeds.

Smooth, rigid, branched, leafy, either herbaceous or shrubby. *Leaves* firm, all simple, alternate, undivided and entire. *Umbels* compound, or simple, often irregular. *Bracteas* sometimes *general*, always *partial*; the latter usually 5, large and conspicuous, longer than the partial umbels. *Fl.* yellow. *Qualities* slightly aromatic, rather acrid.

1. B. *rotundifolium.* Common Hare's-ear. Thorow-wax.

General bracteas wanting. Leaves perfoliate.

B. rotundifolium. *Linn. Sp. Pl.* 340. *Willd. v.* 1. 1369. *Fl. Br.* 292. *Engl. Bot. v.* 2. *t.* 99. *Ehrh. Pl. Off.* 162.

B. n. 767. *Hall. Hist. v.* 1. 342.

B. perfoliatum rotundifolium annuum. *Tourn. Inst.* 310. *Raii Syn.* 221.

Perfoliata. *Matth. Valgr. v.* 2. 499. *f. Camer. Epit.* 588. *f. Dod. Pempt.* 104. *f. Riv. Pentap. Irr. t.* 46.

P. vulgaris. *Ger. Em.* 536. *f. Moris. v.* 3. 299. *sect.* 9. *t.* 12. *f.* 1.

P. vulgatissima, sive arvensis. *Bauh. Pin.* 277.

Perfoliatum vulgatius, flore luteo, folio umbilicato. *Lob. Ic.* 396. *f.*

In corn-fields, especially on a chalky soil.

Annual. *July.*

Root rather small, tapering. *Stem* erect, round, leafy, branched alternately in the upper part, and somewhat corymbose. *Leaves* all perfoliate in a remarkable degree, alternate, broadly ovate, scarcely pointed, rather glaucous, often purplish at the margin, as the *stem* is in the lower part. *Umbels* terminal, compound, solitary, of about 6 *general rays*, and rather more, very short, *partial ones*. *Partial bracteas* large, thrice as long as the flowers, ovate, ribbed, yellowish-green, each with a minute bristly point. *Fl.* of a full yellow, with remarkably short *petals*.

This plant has been reckoned among the vulnerary herbs; but its virtues, whether ever experienced or not, are recorded in old herbals only.

2. B. *Odontites.* Narrow-leaved Hare's-ear.

Partial bracteas five, ovate, acute, three-ribbed; general

three or four. Branches widely spreading. Umbels all stalked. Leaves lanceolate.

B. Odontites. *Linn. Sp. Pl.* 342. *Willd. v.* 1. 1373. *Comp.* 44. *Engl. Bot. v.* 35. *t.* 2468. *Prodr. Fl. Græc. v.* 1. 177. *Jacq. Hort. Vind. v.* 3. 47. *t.* 91.

B. n. 772. *Hall. Hist. v.* 1. 344.

B. annuum, longis et angustioribus foliis. *Moris. v.* 3. 300. *sect.* 9. *t.* 12. *f.* 3.

Odontites lutea. *Spreng. Prodr.* 33. *Dalech. Hist.* 1068. *f.*

Perfoliata minor angustifolia, bupleuri folio. *Bauh. Pin.* 277.

P. minima, bupleuri folio. *Column. Ecphr. v.* 1. 84.

Perfoliatum angustifolium montanum. *Ibid. t.* 247. *f.* 1.

Auriculæ leporis affinis. *Bauh. Hist. v.* 3. *p.* 2. 201. *f.*

On rocks in Devonshire. *Rev. Aaron Neck.*

On the marble rocks about Torquay, Devonshire, unquestionably wild. *Rev. H. Beeke, D. D.*

Annual. *July.*

Root tapering. *Stem* wiry, from 1 inch to 4 or 5 in height, (in southern countries much taller,) branched, widely spreading, leafy, slightly angular, polished. *Leaves* linear-lanceolate, sessile, acute, from 1 to 2 inches long, erect; lowermost stalked, somewhat spatulate. *Umbels* lateral and terminal, erect, on spreading stalks. *General bracteas* lanceolate, with 5 ribs, of which the lateral ones are close together; *partial bracteas* ovate, with usually 3 ribs, sometimes accompanied by 2 more, near the margin. *Flowers* cream-coloured, with a tinge of red. *Anth.* large, yellow. *Styles* scarcely discernible in the flower, proceeding from a broad, depressed, greenish base. *Germen*, as well as the *fruit*, with 3 very evident angles at each side, in every stage of growth, the 2 marginal ones, of each *seed*, meeting at the *juncture*, which is rather of less diameter than the seeds.

Like the rest of its genus, this herb is astringent, with some bitterness.

Gærtner's incorrect figure, if his plant be ours, seems to have misled Professor Sprengel to describe the *fruit* as destitute of ribs. It appears very improbable that this should be Pliny's *Odontites*, with the description of which it does not agree.

3. B. *tenuissimum.* Slender Hare's-ear.

Umbels simple, alternate, of about three flowers, with five awl-shaped bracteas.

B. tenuissimum. *Linn. Sp. Pl.* 343. *Willd. v.* 1. 1375. *Fl. Br.* 292. *Engl. Bot. v.* 7. *t.* 478. *Dicks. H. Sicc. fasc.* 12. 15.

B. n. 774. *Hall. Hist. v.* 1. 344.

B. minimum. *Raii Syn.* 221.

B. tertium minimum. *Column. Ecphr. v.* 1. 85. *t.* 247. *f.* 2.

B. annuum minimum. *Moris. v.* 3. 300. *sect.* 9. *t.* 12. *f.* 4.
Agostana tenuissima. *Bute v.* 8. 299.
Odontites tenuissima. *Spreng. Prodr.* 33.
Auricula leporis minima. *Bauh. Hist. v.* 3. *p.* 2. 201. *f.*

In muddy salt-marshes.
On the shore near Worthing, Sussex. *Mr. T. F. Forster.* At Lynn, Wisbeach, Cley, Holkham, &c. in salt-water ditches, or muddy places overflowed by the tide.
Annual. *August, September.*
Root zigzag. *Stem* slender, erect, wiry, smooth, from 3 to 12 inches high. *Leaves* linear-lanceolate, tapering at each end, erect, three-ribbed, rather glaucous. *Umbels* axillary, solitary, nearly sessile, sometimes disposed in an interrupted spike; each of about 3 small yellowish *flowers*. *Bracteas* 5, awl-shaped, acute, ribbed, nearly equal, rising much above the flowers. *Fruit* roundish-ovate, with 3 very prominent angles or ribs, besides those at the *juncture*, to each *seed*, the whole intermediate surface covered with fine granulations, as in *B. semicompositum*, *Fl. Græc. t.* 261; to which circumstance Professor Sprengel alludes, when he says the fruit of his genus *Odontites* is "somewhat downy." But these granulations are not common to all the species of *Bupleurum* which are otherwise most strictly allied, nor are they found in *B. Odontites* itself. I would rather therefore preserve this most natural genus, *Bupleurum*, undisturbed.

167. HYDROCOTYLE. White-rot.

Linn. Gen. 127. *Juss.* 226. *Fl. Br.* 290. *Tourn. t.* 173. *Lam. t.* 188. *Gærtn. t.* 22.

Fl. all perfect, prolific and regular. *Cal.* none. *Pet.* 5, equal, ovate, spreading, undivided. *Filam.* awl-shaped, spreading, shorter than the corolla. *Anth.* roundish. *Germ.* nearly orbicular, compressed, ribbed, smooth. *Styles* cylindrical, moderately spreading, tumid and somewhat ovate at the base, shorter than the stamens, permanent. *Stigmas* simple. *Fl. Recept.* none. *Fruit* nearly orbicular, rather broader than long, compressed, hollowed out at the sides, crowned with the permanent, scarcely enlarged, styles. *Seeds* hemispherical, tumid, each with 3 prominent dorsal angles. *Juncture* linear, very narrow.
Creeping herbs, usually inhabiting wet or boggy ground. *Leaves* simple, stalked, roundish, or kidney-shaped, or peltate, seldom much divided. *Umbels* axillary, simple; rarely proliferous, or compound. *Bracteas* few, small. *Fl.* whitish.

1. H. *vulgaris*. Common White-rot. Marsh Pennywort.

Leaves orbicular, peltate, smooth; cloven at the base. Umbels somewhat aggregate. Flowers nearly sessile.

H. vulgaris. *Linn. Sp. Pl.* 338. *Willd. v.* 1. 1360. *Fl. Br.* 290. *Engl. Bot. v.* 11. *t.* 751. *Curt. Lond. fasc.* 6. *t.* 19. *Hook. Scot.* 87. *Richard Hydroc.* 25. *f.* 1. *Fl. Dan. t.* 90. *Lind. Hort.* 266. *t.* 12. *Raii Syn.* 222.

H. n. 812. *Hall. Hist. v.* 1. 361.

Ranunculus aquaticus, cotyledonis folio. *Bauh. Pin.* 180.

Cotyledon palustris. *Dod. Pempt.* 133. *f. Ger. Em.* 529. *f.*

Aquatica Cotyledon acris septentrionalium. *Lob. Ic.* 387. *f.*

On moist heaths, boggy commons, and the margins of little clear rivulets, very frequent.

Perennial. *May, June.*

Roots fibrous. *Stems* creeping to the extent of 2 or 3 feet, slender, smooth, often subdivided, quite prostrate. *Leaves* solitary or aggregate, on upright simple *footstalks* 2 or 3 inches high; horizontal, nearly orbicular, doubly crenate, smooth, light green, with 8 or 9 branching ribs, radiating from the centre, and a notch, more or less deep, at the base *Flower-stalks* axillary, 1 or more accompanying each group of leaves, shorter than the *footstalks*, with a pair of broad *bracteas* at the base. *Umbel* very small, its *rays* so short as to be scarcely observable, usually about 5, with 3 or 4 thin lanceolate *bracteas* at their base. *Fl.* small, white or reddish. *Fruit* somewhat wrinkled, compressed, like all the preceding, laterally, that is, contrary to the *juncture*; and not much more so than several of the foregoing genera or species.

This herb is acrid, and probably, like others of the umbelliferous tribe, growing in wet places, poisonous. But whether it causes the rot in sheep, and indeed whether those animals ever touch it, is doubtful. Too moist a pasture is known to produce that disease, and there the *Hydrocotyle* is generally to be found.

168. SELINUM. Milk-parsley.

Linn. Gen. 133. *Juss.* 223. *Fl. Br.* 303. *Spreng. Prodr.* 15. *Lam. t.* 200. *Gærtn. t.* 21.

Thysselinum. *Tourn. Inst.* 319. *Spreng. Sp. Umb.* 70.

Fl. all perfect and regular; some of the innermost only occasionally abortive. *Cal.* of 5 minute, spreading, somewhat pointed, permanent teeth. *Pet.* involute, pointed, inversely heart-shaped, equal. *Filam.* thread-shaped, spreading, about the length of the corolla. *Anth.* roundish. *Germen* inferior, ovate, compressed, ribbed, some-

what bordered. *Styles* short and close in the flower; subsequently elongated, reflexed, flattened; their bases tumid, hemispherical. *Stigmas* obtuse, or capitate. *Fl. Recept.* obsolete. *Fruit* elliptical, transversely compressed, crowned with the calyx and styles. *Seeds* nearly elliptical, almost flat, each with 3 longitudinal, more or less acute, dorsal ribs; the margin dilated, flat, even, smooth, and entire, at least half as broad as the body of the seed. *Juncture* broad, flat, close, parallel to the seeds, and of the same width, not extending to their wings.

Perennial or biennial herbs, with rather tall, upright, furrowed *stems*, and large, repeatedly pinnate, finely divided, *leaves*. *Umbels* of many, *general* as well as *partial*, angular *rays*, with narrow, lanceolate, pointed, *general* and *partial bracteas*. *Fl.* white, numerous. *Seeds* pale brown.

1. S. *palustre*. Marsh Milk-parsley.

Milky. Root generally single. Leaves triply pinnate; leaflets pinnatifid, with elliptic-lanceolate segments. Rays of the umbel rough. Ribs of the seeds broad and obtuse.

S. palustre. *Linn. Sp. Pl.* 350. *Willd. v.* 1. 1397. *Fl. Br.* 303. *Engl. Bot. v.* 4. *t.* 229. *Hook. Scot.* 88. *Spreng. Prodr.* 15. *Ehrh. Pl. Off.* 363. *Fl. Dan. t.* 257. *Crantz. Austr. fasc.* 3. 39. *t.* 4. *f.* 1. ? perhaps a starved plant.

S. sylvestre. *Jacq. Austr. t.* 152.

S. n. 799. *Hall. Hist. v.* 1. 355.

S. palustre lactescens. *Bauh. Pin.* 162. *Prodr.* 85. *f. Moris. v.* 3. 317.

Thysselinum palustre. *Tourn. Inst.* 319.

Th. Plinii. *Spreng. Sp. Umb.* 69. *Lob. Ic.* 711. *f. Moris. v.* 3. 317. *sect.* 9. *t.* 17. *f.* 2.

Thysselium angustifolium. *Riv. Pent. Irr. t.* 20.

Apium sylvestre, sive Thysselium. *Dod. Pempt.* 699. *f. Ger. Em.* 1020. *f. Dalech. Hist.* 701. *f. Bauh. Hist. v.* 3. *p.* 2. 188, *descr. not the figure.*

In marshes and boggy meadows.

In several parts of Yorkshire and Lancashire; first noticed by Mr. Hudson near Doncaster. Found in some alder swamps near Yarmouth, by Mr. Lilly Wigg, and between Norwich and Heigham, towards the river, by Mr. Pitchford. The present Bishop of Carlisle noticed it near Prickwillow bank, in the Isle of Ely, and Mr. Hopkirk in a ditch at Ardencaple wood, in the south of Scotland.

Perennial; some say biennial. *July.*

Root, with us, tapering, simple, with many long fibres. *Stem* solitary, erect, 4 or 5 feet high, hollow, deeply furrowed, not hairy; branched and corymbose in the upper part; bright purple at the base. *Leaves* about 5 or 6 on the stem, alternate, remote, twice or thrice pinnate; *leaflets* opposite, deeply pinnatifid, dark green, smooth, their segments elliptic-lanceolate, never quite linear, rather acute, slightly decurrent, entire; the terminal ones longest. *Footstalks* branched, striated, smooth; dilated and sheathing at the base, with a reddish membranous margin. *Umbels* large, horizontal, of numerous, rough, angular, *general* and *partial rays*. *General bracteas* several, lanceolate, pointed, dependent, not half the length of the rays, their margins membranous, and partly coloured; *partial ones* similar, rather longer in proportion. *Fl.* white, numerous, uniform, with involute *petals*. *Seeds* elliptical, light brown, paler at the edges; their ribs broad, obtuse, with narrow linear interstices. There are several barren or abortive *flowers* in each partial umbel.

The *root* serves the Russians for Ginger; and the whole herb abounds with a white, bitter, fetid juice, of the consistence of cream, which soon dries to a brownish acrid resin. This milky exudation is the only character by which Tournefort distinguishes his *Thysselinum* from his *Oreoselinum*. The ingenious Sprengel has, more scientifically, endeavoured to found a generic difference on the broader ribs, and somewhat thicker coat, of the *seeds*, compared with other species of *Selinum*. But I think these characters are scarcely discernible, and by no means sufficient to authorize a division of so natural a genus. The true name in Pliny is, moreover, *Thysselium*, which most authors, except the learned Rivinus, have negligently corrupted; but which must be restored, if it were wanted, to avoid clashing with *Selinum*. See *Philosophia Botanica, sect.* 225.

There appear to be two varieties of *Selinum palustre*, one of which, well represented by Dalechamp, is here described; and the other, with more numerous *roots* and *stems*, as figured in Dodonæus, Gerarde, Lobel and Morison, is often taken for the Linnæan *sylvestre*. Professor Sprengel has, with great accuracy and judgement, proved them one and the same species. But the *S. sylvestre* of Linnæus, cultivated at Upsal, and preserved in his herbarium, is really distinct, having still more compound *leaves*, whose *leaflets* have perfectly linear and very narrow segments, running down into a winged mid-rib, and the aspect of the whole *leaf*, as well as its paler hue, is remarkable. Of this I can discover no synonyms. Haller's no. 800, *Thysselium* of Rivinus, t. 19, always mistaken for *S. sylvestre*, proves by Reynier's herbarium, and Haller's description, totally distinct from both these Linnæan species, having a bristly *stem*, and *leaves* much less compound, with far broader segments, than either. No wonder that the Swiss botanists have always been in uncertainty respecting these plants, as appears from Mr. Davall's notes.

169. PEUCEDANUM. Sulphur-wort.

Linn. Gen. 134. *Juss.* 223. *Fl. Br.* 304. *Tourn. t.* 169. *Spreng. Prodr.* 13. *Gærtn. t.* 21.

Fl. regular, uniform, imperfectly separated; the innermost barren or abortive. *Cal.* of 5 acute, ascending, permanent teeth. *Pet.* 5, all very nearly equal, inversely heart-shaped, with inflexed points. *Filam.* capillary, spreading beyond the petals. *Anth.* roundish. *Germ.* inferior, oblong, a little compressed laterally, with a rib at each side. *Styles* small, recurved, tumid and ovate-oblong at the base; at length somewhat enlarged, permanent. *Stigmas* obtuse, notched. *Fl. Recept.* none. *Fruit* broadly elliptical, nearly orbicular, transversely compressed, crowned with the calyx and styles. *Seeds* broadly elliptical, with a notch at each end, nearly flat, each with 3 slightly prominent ribs, the interstices striated; the margin dilated, with a flat, even, smooth, entire, narrow wing, or border, about one third as broad as the body of the seed. *Juncture* broad, flat, close, parallel to the seeds, each of which is marked, on its perfectly flat inner side, with a pair of dark brown, continued, converging, longitudinal lines.

Perennial, fetid, resinous, smooth herbs, with round, striated, branching, leafy, solid *stems*. *Leaves* repeatedly compound, with extremely narrow, acute, entire *leaflets*. *Umbels* large, concave, or flat, of numerous, *general* and *partial*, smooth *rays*. *Bracteas* several, both *general* and *partial*, linear or lanceolate, rather small; not membranous at the edges. *Fl.* yellow. *Fruit* first reddish, then of a tawny brown.

1. P. *officinale*. Sea Sulphur-wort. Hog's Fennel.

Leaves five times deeply three-cleft; leaflets linear, undivided, flat. Bracteas linear, almost capillary.

P. officinale. *Linn. Sp. Pl.* 353. *Willd. v.* 1. 1405. *Fl. Br.* 304. *Engl. Bot. v.* 25. *t.* 1767.

P. n. 4. *Gmel. Sib. v.* 1. 188. *t.* 41.

Peucedanum. *Raii Syn.* 206. *Trag. Hist.* 880. *f.* 881. *Dod. Pempt.* 317. *f. Ger. Em.* 1054. *f. Matth. Valgr. v.* 2. 150. *f*; bad. *Camer. Epit.* 550. *f*; not good.

P. germanicum. *Bauh. Pin.* 149.

P. majus italicum. *Ibid.*

P. minus germanicum, et majus italicum. *Bauh. Hist. v.* 3. *p.* 2. 36. *f, f.*

Peucedanus. *Fuchs. Hist.* 599. *f.*
Hog's Fennel. *Pet. H. Brit. t.* 24. *f.* 7.

In salt marshes ; very rare.
In ditches near Shoreham, Sussex ; and at Walton, near Harwich, Essex. *Ray.* About a quarter of a mile below Feversham, by the river side. *Sherard.* It still grows there, as well as on a cliff, by the sea, at Hearn, 6 miles from Whitstable. *Mr. Crow of Feversham.* Never found in Norfolk.
Perennial. *July—September.*
Herb smooth, tough, slender, 3 or 4 feet high, with a resinous juice, and a strong sulphureous smell. *Leaves* copious, their ultimate segments, or *leaflets* 3 together, either quite linear and almost capillary, or linear-lanceolate, flat, though very narrow, pointed, 3-ribbed, $1\frac{1}{2}$ inch long. *Umbels* erect, 3 or 4 inches broad. *Flowers* numerous, of an uniform buff yellow. Many stimulating qualities have been attributed to the root, but it should seem to be rather dangerous for internal use.

170. PASTINACA. Parsnep.

Linn. Gen. 144. *Juss.* 219. *Fl. Br.* 328. *Tourn. t.* 170. *Spreng. Prodr.* 14. *Lam. t.* 206. *Gærtn. t.* 21.

Fl. all regular, uniform, perfect, and generally prolific. *Cal.* of 5 very minute, obsolete teeth, permanent, concealed by the floral receptacle. *Pet.* 5, broad-lanceolate, pointed, involute, equal. *Stam.* thread-shaped, spreading, about the length of the petals. *Anth.* roundish. *Germen* inferior, ovate, compressed transversely, obscurely striated. *Styles* in the flower very short, erect; subsequently spreading, recurved, moderately elongated; greatly dilated, rather depressed, at the base, and confluent with the broad, orbicular, wavy, rather thin, *fl. recept. Stigmas* capitate. *Fruit* broadly elliptical, somewhat obovate, compressed transversely, crowned with the fl. recept. and styles. *Seeds* of the same form, with a slight notch at the summit; very nearly flat at the back, with 3 dorsal ribs, and 2 distant, more prominent and broader ones, at the circumference, beyond which is a thin, narrow, even, acute border; their inner surface flat, marked with a pair of continued, converging, brown lines, shorter than the seed. *Juncture* close, flat, parallel to the seeds, and nearly as broad.
Large, broad-leaved, biennial or perennial, sweetish or bitter, aromatic plants, with more or less roughness on their surface. *Fl.* yellow. *Seeds* light brown, darker between the ribs.

1. P. *sativa.* Common Wild Parsnep.

Leaves simply pinnate; downy beneath.

P. sativa. *Linn. Sp. Pl.* 376. *Willd. v.* 1. 1466. *Fl. Br.* 328. *Engl. Bot. v.* 8. *t.* 556. *Mart. Rust. t.* 83.
P. sylvestris. *Huds.* 125. *Relh.* 122. *Sibth.* 101. *Abbot* 67.
P. n. 808. *Hall. Hist. v.* 1. 359.
P. sylvestris latifolia. *Raii Syn.* 206. *Ger. Em.* 1025. *f.* *Bauh. Pin.* 155. *Dod. Pempt.* 680. *f.* *Moris. v.* 3. 314. *sect.* 9. *t.* 16. *f.* 2.
Pastinaca. *Trag. Hist.* 439. *f.* 440. *Riv. Pentap. Irr. t.* 6.
P. domestica. *Matth. Valgr. v.* 2. 106. *f.* *Camer. Epit.* 507. *f.*
Siser sylvestre. *Fuchs. Hist.* 753. *f.*

About the borders of fields, on hillocks and dry banks, in a chalky soil.

Biennial. *July.*

Root spindle-shaped, white, aromatic, mucilaginous and sweet, with a degree of acrimony which it loses by cultivation, becoming the eatable garden Parsnep. *Stem* a yard high, erect, branched, leafy, angular, deeply furrowed, roughish. *Leaves* oblong, pinnate, with *footstalks* dilated and concave at the base; *leaflets* from 3 or 5 to 9, opposite, ovate, serrated and cut, bright green, downy at the back; the terminal one 3-lobed. *Umbels* terminal, erect, of several unequal, angular, downy *rays; partial ones* of more numerous rays. Both are usually naked; but there is occasionally a solitary lanceolate *bractea,* under the *general,* as well as *partial, umbels.* *Fl.* yellow, small, some of the innermost not unfrequently abortive. *Fruit* large, pale brown when quite ripe.

171. HERACLEUM. Cow-parsnep.

Linn. Gen. 137. *Juss.* 222. *Fl. Br.* 306. *Spreng. Prodr.* 12. *Lam. t.* 200.
Sphondylium. *Tourn. t.* 170. *Gærtn. t.* 21.

Fl. incompletely separated; the inner ones barren, or abortive; those of the circumference perfect and prolific. *Cal.* of 5 small, acute teeth, obliterated in the fruit. *Pet.* 5, inversely heart-shaped, with an inflexed point; in the innermost flowers smallest, nearly equal and regular; in those of the circumference much larger, irregular, and radiant, the outer one largest, with equal lobes, the rest more or less unequally divided; the 2 inner ones smallest. *Filam.* thread-shaped, longer than the corolla, spreading, a little incurved. *Anth.* roundish. *Germ.* inferior, ovate, slightly compressed transversely. *Styles* at first erect, rather short; subsequently flattened, spreading, and some-

what elongated; broad and pyramidal at the base. *Stigmas* obtuse, notched. *Floral Recept.* undulated, crenate, obtuse, a little broader than the bases of the styles, to which it is united. *Fruit* inversely heart-shaped, somewhat elliptical, compressed transversely, nearly flat, crowned with the fl. recept. and styles. *Seeds* of the same form, deeply notched at the summit, more or less evidently at the base; flat in the disk, with 3 slender dorsal ribs, and 2 distant marginal ones, the interstices occupied, in their upper half, by 4 intermediate, coloured, slightly channelled, parallel lines; border narrow, somewhat tumid, smooth, even and entire; inner surface flat and even, with a pair of obtuse coloured lines, extending from near the summit to the middle. *Juncture* close, flat, parallel to the seeds, and nearly as broad.

Robust perennial or biennial plants, hairy or roughish, aromatic with some sweetness; their *stems* hollow, furrowed; their *leaves* variously pinnate, with broadish, jagged, serrated, often decurrent and radiating, *leaflets*. *Umbels* large, broad and flat. *General bracteas* deciduous, or wanting; *partial* lanceolate, taper-pointed. *Fl.* large, numerous, white or reddish. *Seeds* straw-coloured, with brown lines.

1. H. *Sphondylium*. Common Cow-parsnep. Hogweed.

Leaves pinnate; leaflets pinnatifid, cut and serrated.

H. Sphondylium. *Linn. Sp. Pl.* 358. *Willd. v.* 1. 1421. *Fl. Br.* 307. *Engl. Bot. v.* 14. *t.* 939. *Hook. Scot.* 89. *Ehrh. Pl. Off.* 383. *Spreng. Prodr.* 12. *Spec. Umb.* 41.

Sphondylium. *Raii Syn.* 205. *Ger. Em.* 1009. *f.* *Matth. Valgr. v.* 2. 147. *f.* *Camer. Epit.* 548. *f.* *Dod. Pempt.* 307. *f.* *Riv. Pentap. Irr. t.* 4.

S. n. 809. *Hall. Hist. v.* 1. 360.

S. vulgare hirsutum. *Bauh. Pin.* 157. *Moris. v.* 3. 313. *sect.* 9. *t.* 16. *f.* 1.

Acanthus germanica *Fuchs. Hist.* 53. *f.*

Cow Parsnep. *Pet. H. Brit. t.* 24. *f.* 1.

β. Huds. 117. *With.* 296. *var.* 2. *Relh.* 112.

Heracleum angustifolium. *Fl. Br.* 307. *Abbot* 61. *Jacq. Enum.* 45. 217. *t.* 2. *Austr. v.* 2. 46. *t.* 173. Not of Linnæus.

Sphondylium majus aliud, laciniatis foliis. *Raii Syn.* 205.

S. hirsutum, foliis angustioribus. *Bauh. Pin.* 157. *Prodr.* 83.

S. hirsutum minus, foliis tenuiter laciniatis, semine lato. *Pluk. Almag.* 355. *Phyt. t.* 63. *f.* 3.

Jagged Cow Parsnep. *Pet. H. Brit. t.* 24. *f.* 2.

In hedges, the borders of fields, and rather moist meadows, very common.

Biennial. *July.*

Root tap-shaped, whitish, aromatic, sweetish and rather mucilaginous. *Stem* 4 feet high, erect, branched, leafy, furrowed, rough with white spreading hairs. *Leaves* large, ternate or pinnate; *leaflets* usually broad, rather heart-shaped, lobed, serrated, veiny, hairy, paler beneath; varying occasionally very much in breadth, and in the variety β, which that excellent observer the late Mr. Woodward found growing on the same root with the common kind, deeply pinnatifid, the 2 lowest lobes elongated and spreading in a radiating manner, as delineated by Jacquin and Plukenet. *Footstalks* hairy; dilated, ribbed, concave, and sheathing, at the base. *Umbels* flattish, of many angular *rays*, which are downy at one side, like the more numerous *partial rays*. *Bracteas* lanceolate, membranous, finely fringed, with long taper points, the *general ones* few, soon falling off, or altogether wanting. *Fl.* more or less conspicuously radiant, white, or reddish; many, in the central portion of each partial *umbel*, barren, with no traces of a *germen*. *Fruit* abundant, light brown, with 4 purplish-brown lines at each side.

The whole plant is wholesome and nourishing food for cattle; and is gathered in Sussex for fattening hogs, being known by the name of Hog-weed, as I have learned from Sir Thomas Frankland.

Two very able botanists having compared a Yorkshire narrow-leaved specimen, with one from Sweden of the true Linnæan *H. angustifolium*, they assured me of its being indubitably the same. Hence I admitted *H. angustifolium* into the *Flora Britannica*, with a description made from the plant in the Linnæan herbarium, which is clearly a distinct species; but on seeing the Yorkshire specimen, I at once perceived the mistake, which is corrected in *Engl. Bot.* Jacquin's *angustifolium* is doubtless our variety, whatever his *longifolium*, *Fl. Austr. t.* 174, a much larger plant, may be.

172. TORDYLIUM. Hart-wort.

Linn. Gen. 130. *Juss.* 224. *Fl. Br.* 294. *Spreng. Prodr.* 11. *Tourn. t.* 170. *Lam. t.* 193. *Gærtn. t.* 21.

Fl. more or less perfectly separated, irregular; those of the circumference fertile. *Cal.* of 5 awl-shaped, unequal, deciduous or permanent teeth. *Pet.* 5; in the innermost flowers smallest, nearly equal and uniform, inversely heart-shaped, with an inflexed point: in those of the circumference radiant, variously unequal and irregular, in-

versely heart-shaped, with an inflexed point; the inner one smallest, with equal lobes, the two next with very unequal lobes, and the outermost with very large equal ones; or the three innermost have nearly equal, and the 2 outermost extremely unequal, lobes, the largest one of each coming together. *Filam.* thread-shaped, spreading, as long as the smaller petals, often wanting in the radiant flowers. *Anth.* roundish. *Germ.* inferior, ovate, rugged or bristly, transversely compressed. *Styles* thread-shaped, erect, swelling at the base, subsequently spreading, deciduous; wanting in the central flowers. *Stigmas* simple. *Fl. Recept.* none. *Fruit* almost orbicular, compressed transversely, crowned with the tumid bases of the styles. *Seeds* of the same form, nearly flat in the disk, scarcely ribbed or striated, sometimes rough or bristly; the border tumid, wrinkled or crenate, bristly or naked. *Juncture* flat, close, broad, including part of the border.

Roughish, annual herbs; with pinnate, broad, notched *leaves*, and compound *umbels* of handsome, radiant, white or reddish *flowers*. *Bracteas* linear, both *general* and *partial*; the latter unequal.

† 1. T. *officinale*. Small Hart-wort.

Partial bracteas about as long as the flowers. Leaflets ovate, cut, crenate. Radiant petals in pairs, with very unequal lobes.

T. officinale. *Linn. Sp. Pl.* 345. *Willd. v.* 1. 1381. *Fl. Br.* 294. *Engl. Bot. v.* 34. *t.* 2440. *Fl. Græc. v.* 3. 60. *t.* 267. *Tr. of Linn. Soc. v.* 12. 347.

T. sive Seseli creticum minus. *Raii Syn. ed.* 2. 102.

T. narbonense minus. *Tourn. Inst.* 320. *Dill. in Raii Syn.* 206; with an erroneous place of growth.

T. apulum minimum. *Column. Ecphr.* 122. *t.* 124. *f.* 1. *Moris. v.* 3. 316. *sect.* 9. *t.* 16. *f.* 6.

T. Dodonæi. *Dalech. Hist.* 751. *f.*

Seseli creticum, sive Tordylium. *Dod. Pempt.* 313. *f.* 314. *Lob. Ic.* 736. *f.*

S. creticum minus. *Bauh. Pin.* 161. *Ger. Em.* 1050. *f.*

Caucalis minor, pulchro semine, sive Bellonii. *Bauh. Hist. v.* 3. *p.* 2. 84. *f.*

Small Hart-wort. *Pet. H. Brit. t.* 24. *f.* 6.

In cultivated fields, but very rare; possibly never seen at all in England, the following having been confounded with it.

Found by Mr. Doody about Isleworth. *Ray.* About London. *Petiver.*

Annual. *June, July.*

Root tapering, small. *Stem* generally branched, a little spreading, round, furrowed, leafy, from 10 to 14 inches high, clothed with soft, deflexed hairs. *Leaves* rough, hairy, simply pinnate; leaflets few, roundish or ovate, crenate and variously cut; the odd one largest. *Footstalks* of the lower ones longest; of the uppermost very short; all but slightly dilated, though strongly ribbed, at the base. *Umbels* terminal, on long stalks, dense, a little convex; the disk of numerous, crowded, nearly equal, white *flowers*; the radius formed of the very unequal, outer *petals*, of the *flowers* of the circumference, the large lobes of 2 flowers coming together, and resembling a single petal. These lobes are sometimes reddish. *Bracteas* lanceolate, acute; the *partial ones* largest at one side of the *partial umbels*. *Fruit* hairy on the disk, brown, with scarcely any ribs or lines; the border paler, greatly elevated, tumid, neatly crenate transversely.

T. apulum, figured in Rivinus, *Pentap. Irr. t.* 2, and *Jacq. Hort. Vind. v.* 1. *t.* 53, is readily distinguished by having, in each marginal flower, only one radiant petal, with two equal lobes.

2. T. *maximum.* Great Hart-wort.

Leaflets lanceolate, deeply serrated and notched. Flowers somewhat radiant; the outermost petal of two equal lobes. Stem rough, with close deflexed bristles.

T. maximum. *Linn. Sp. Pl.* 345. *Willd. v.* 1. 1382. *Fl. Br.* 295. *Engl. Bot. v.* 17. *t.* 1173. *Jacq. Austr. t.* 142. *Tourn. Inst.* 320. *Dill. in Raii Syn.* 206.

T. n. 811. *Hall. Hist. v.* 1. 361.

T. vulgatius, semine plano, flore ex rubente albo. *Moris. v.* 3. 316. *sect.* 9. *t.* 16. *f.* 1.

Tordylium. *Riv. Pentap. Irr. t.* 1.

Heracleum Tordylium. *Spreng. Sp. Umb.* 49.

Seseli creticum majus. *Bauh. Pin.* 161. *Ger. Em.* 1050. *f.*

S. creticum, sive Tordilion, majus. *Lob. Ic.* 737. *f.*

Caucalis maxima, Sphondylii aculeato semine. *Bauh. Pin.* 152.

C. major. *Clus. Hist. v.* 2. 201. *f.*

C. major, semine minùs pulchro hirsuto. *Bauh. Hist. v.* 3. *p.* 2. 85. *f.*

On banks and waste ground, but rare.

About London. *Morison.* Under the hedge on the north side of the Parks, Oxford. *Dr. J. Sibthorp and Mr. Woodward.* In a hedge about half a mile from Eton. *Mr. R. Gotobed.* 1803.

Annual. *June, July.*

Root tapering. *Stem* 3 or 4 feet high, erect, branched, leafy, hollow, angular and deeply furrowed, clothed with fine rigid bristles, all closely deflexed. *Leaves* pinnate, of a darker green than the

stem, densely covered with fine, close, bristly hairs, all directed towards the point; *leaflets* oblong-lanceolate, the lower ones ovate, all coarsely serrated, and sometimes deeply notched, single-ribbed, veiny; the odd one largest. *Footstalks* somewhat dilated at the lower part, often hairy. *Umbels* rather small and dense, bristly, as well as their linear, *general* and *partial, bracteas.* Teeth of the *calyx* very unequal. *Fl.* reddish, more or less radiant, the outermost *petal* with equal lobes, the 2 next with extremely unequal ones. *Seeds* nearly orbicular; externally bristly; the disk a little convex, marked with 4 brown longitudinal lines; the *border* pale, tumid, wrinkled sufficiently to determine the generic character, though not so elegantly as in the preceding, and beset with direct bristles; the inside of each *seed,* with the *border,* quite smooth, with 2 close, parallel, brown lines, in the middle.

PENTANDRIA TRIGYNIA.

173. VIBURNUM. Guelder-rose.

Linn. Gen. 147. *Juss.* 213. *Fl. Br.* 334. *Tourn. t.* 377. *Lam. t.* 211. *Gærtn. t.* 27.

Opulus. *Tourn. t.* 376.

Nat. Ord. *Dumosæ.* Linn. 43. *Caprifolia.* Juss. 58. Requires revision. *N.* 174 the same.

Cal. superior, minute, of 1 leaf, in 5 deep segments, permanent. *Cor.* of 1 petal, shortly funnel-shaped, with 5 obtuse, spreading, not quite equal, marginal lobes. *Filam.* 5, awl-shaped, spreading, about the length of the corolla, inserted into its tube, alternate with the segments. *Anth.* roundish. *Germ.* inferior, roundish, a little compressed. *Style* none. *Stigmas* 3, sessile, obtuse. *Berry* roundish, either globular or compressed, of 1 cell. *Seed* solitary, hard, roundish, compressed.

Shrubs, with opposite, stalked, simple, smooth or downy, *leaves,* red in autumn. *Fl.* white or reddish, numerous, in terminal *cymes. Berries* red, or purplish-black, not eatable.

1. V. *Lantana*. Mealy Guelder-rose. Way-faring Tree.

Leaves heart-shaped, serrated, veiny; downy beneath.

V. Lantana. *Linn. Sp. Pl.* 384. *Willd. v.* 1. 1489. *Fl. Br.* 334. *Engl. Bot. v.* 5. *t.* 331. *Hook. Scot.* 96. *Jacq. Austr. t.* 341.
V. n. 669. *Hall. Hist. v.* 1. 298.
Viburnum. *Raii Syn.* 460. *Bauh. Pin.* 429. *Matth. Valgr. v.* 1. 194 *f. Camer. Epit.* 122. *f. Dalech. Hist.* 256. *f. Duham. Arb. v.* 2. *t.* 103.
Viurna vulgi. *Lob. Ic. v.* 2. 168. *f.*
Lantana. *Dod. Pempt.* 781. *f. Ger. Em.* 1490. *f.*

In woods and hedges, especially on a chalky or limestone soil.
Shrub. *May.*
A small tree, with copious, opposite, round, pliant, mealy *branches*. *Leaves* deciduous, heart-shaped, rounded, finely serrated; cloth-ed beneath, more sparingly on the upper side, with starry mealy pubescence, like that on the branches, foot-stalks, and flower-stalks. *Stipulas* none. *Bracteas* several, small, acute. *Cymes* broad and flat, of numerous, crowded, white *flowers*, with yel-lowish *anthers*. *Stigmas* short and thick. *Berries* compressed; in an early state red on the outer side, yellow on the inner; finally black, with a little mealy astringent pulp. *Seed* large, flat and furrowed.
The leaves turn of a dark red in autumn. This shrub is scarcely worth cultivating for ornament, nor is it of any particular use, except that the bark serves to make bird-lime; but that of Holly, v. 1. p. 227. is much better.

2. V. *Opulus*. Common Guelder-rose. Water Elder.

Leaves lobed. Footstalks beset with glands.

V. Opulus. *Linn. Sp. Pl.* 384. *Willd. v.* 1. 1490. *Fl. Br.* 335. *Engl. Bot. v.* 5. *t.* 332. *Hook. Scot.* 96. *Fl. Dan. t.* 661.
Opulus. *Raii Syn.* 460. *Duham. Arb. v.* 2. *t.* 16.
O. n. 668. *Hall. Hist. v.* 1. 297.
Sambucus aquatica. *Bauh. Pin.* 456. *Trag. Hist.* 1002. *f. Matth. Valgr. v.* 2. 607. *f. Camer. Epit.* 977. *f.*
S. aquatilis, sive palustris. *Ger. Em.* 1424. *f.*

In watery hedges and swampy thickets.
Shrub, or Small Tree. *June.*
Taller than the preceding, and quite smooth in every part. *Leaves* larger, as broad as the hand, paler beneath, three-lobed, un-equally serrated, veiny, deciduous; bright green in summer, but in autumn assuming a beautiful pink or crimson hue, like other Europæan species of genera that are principally American, as *Cornus*. *Footstalks* channelled, bordered with several round green glands towards the top, and several oblong leafy appen-

dages lower down. *Stipulas* none. *Cymes* large, white, with linear *bracteas*. Several marginal *flowers* dilated, flat, radiant, without *stamens* or *pistils*. In the cultivated variety, the whole *cyme*, nearly, consists of such, and becomes globular. *Berries* elliptical, bright red, very juicy, but bitter and nauseous. *Seed* compressed.

The variety just mentioned, called the Snow-ball tree, or Guelder-rose, is commonly planted in shrubberies, along with the Lilac, and Laburnum, grouping elegantly with the various purple hues of the former, and the "golden chain" of the latter; but they are all mere summer beauties, nor does any thing profitable or ornamental follow.

174. SAMBUCUS. Elder.

Linn. Gen. 147. *Juss.* 214. *Fl. Br.* 335. *Tourn. t.* 376. *Lam. t.* 211. *Gærtn. t.* 27.

Nat. Ord. see *n.* 173.

Cal. superior, of 1 leaf, small, in 5 deep segments, permanent. *Cor.* of 1 petal, nearly wheel-shaped, but slightly concave, in 5 deep, obtuse, somewhat reflexed, segments. *Filam.* awl-shaped, about the length of the corolla, inserted into its base, alternate with the segments. *Anth.* roundish heart-shaped. *Germ.* inferior, ovate, obtuse. *Style* none. *Stigmas* 3, obtuse. *Berry* globular, of 1 cell. *Seeds* 3, convex at the outside, angular inwards.

Stem arborescent with a solid spongy pith, rarely herbaceous. *Leaves* opposite, stalked, pinnate, serrated, deciduous. *Fl.* white, or purplish, in terminal *cymes*. *Berries* purple, cathartic.

1. S. *Ebulus*. Dwarf Elder. Danewort.

Cymes with three main branches. Stipulas leafy. Stem herbaceous.

S. Ebulus. *Linn. Sp. Pl.* 385. *Willd. v.* 1. 1494. *Fl. Br.* 336. *Engl. Bot. v.* 7. *t.* 475. *Curt. Lond. fasc.* 3. *t.* 18. *Woodv. suppl. t.* 260. *Hook. Scot.* 96.

S. n. 671. *Hall. Hist. v.* 1. 299.

S. humilis, sive Ebulus. *Bauh. Pin.* 456. *Raii Syn.* 461. *Mill. Ic.* 151. *t.* 226.

Ebulus. *Matth. Valgr. v.* 2. 608. *f.* *Camer. Epit.* 979. *f.* *Fuchs. Hist.* 65. *f.* *Ic.* 38. *f.*

E. sive Sambucus humilis. *Ger. Em.* 1426. *f.*

In waste ground, and about hedges, but not common either in England or Scotland.

Perennial. *July*.

Root fleshy, creeping, difficult of extirpation. *Stems* annual, simple, erect, leafy, about a yard high, roundish, though very deeply and unequally furrowed. *Leaves* dark green, nearly smooth, with ovate-lanceolate, acute, sharply serrated *leaflets*, unequal at their base, some of them 4 or 5 inches long. *Stipulas* large, leafy, cut, sometimes accompanying 2 or 3 of the lowest pairs of leaflets, as well as the main *footstalk*. *Cymes* first 3-cleft, then variously and copiously branched, hairy. *Fl.* all stalked, of a dull purplish hue, with thick, upright, white *filaments*, whose *anthers* are reddish. *Berries* globose, black, not always perfected. *Seeds* 3 or 4.

Our ancestors evinced a just hatred of their brutal enemies the Danes, in supposing the nauseous, fetid and noxious plant before us to have sprung from their blood. Its qualities are violently purgative, sometimes emetic; yet a rob of the fruit is said to have been taken with safety, as far as an ounce. The foliage is not eaten by cattle, nor will moles come where these leaves, or those of the following species, are laid.

2. S. *nigra*. Common Elder.

Cymes with five main branches. Stipulas obsolete. Leaflets ovate. Stem arboreous.

S. nigra. *Linn. Sp. Pl.* 385. *Willd. v.* 1. 1495. *Fl. Br.* 336. *Engl. Bot. v.* 7. *t.* 476. *Woodv. Med. Bot. t.* 78. *Hook. Scot.* 96. *Fl. Dan. t.* 545. *Ehrh. Pl. Off.* 123.

S. n. 670. *Hall. Hist. v.* 1. 298.

Sambucus. *Raii Syn.* 461. *Ger. Em.* 1422. *f. Matth. Valgr. v.* 2. 606. *f.* (erroneously marked *montana.*) *Camer. Epit.* 975. *f. Fuchs. Hist.* 64. *f. Ic.* 37. *f. Duham. Arb. v.* 2. *t.* 65.

β. S. fructu albo. *Ger. Em.* 1422. *f.*

S. acinis albis. *Raii Syn.* 461.

γ. S. laciniatis foliis. *Ger. Em.* 1422. *f. Lob. Ic. v.* 2. 164. *f.*

S. laciniato folio. *Bauh. Pin.* 456. *Raii Syn.* 461.

In hedges, coppices, and woods, common; the varieties rare, except in gardens.

A small tree. *June.*

Stem much and irregularly, though always oppositely, branched, of quick growth; *branches*, after a year's growth, clothed with smooth grey bark, and filled with a light spongy pith. *Leaflets* deep green, smooth, usually 2 pair, with an odd one. *Cymes* large, smooth, of numerous cream-coloured *flowers*, with a sweet, but faint smell; some in each cyme sessile. *Berries* globular, purplish-black; their stalks reddish.

It may be observed that our uncertain summer is established by the time the Elder is in full flower, and entirely gone when its berries are ripe. These berries make a useful and agreeable rob, of a slightly purgative quality, and very good for catarrhs, sore

throats, &c. The inner bark is more actively cathartic, and is thought beneficial, in rustic ointments and cataplasms, for burns. The dried flowers serve for fomentations, and make a fragrant but debilitating tea, useful perhaps in acute inflammations, but not to be persisted in habitually. An infusion of the leaves proves fatal to the various insects which thrive on blighted or delicate plants, nor do many of this tribe, in the caterpillar state, feed upon them. Cattle scarcely touch them, and the mole is driven away by their scent.

Both the varieties above marked have usually whitish berries, of a less disagreeable flavour than the recent black ones; but the latter are best for medical use. A wine is often made of them, to be taken warm, with spices and sugar; and they are said frequently to enter into the composition of a less innocent beverage, artificial or adulterated Port.

175. STAPHYLEA. Bladder-nut.

Linn. Gen. 148. *Juss.* 377. *Fl. Br.* 337. *Lam. t.* 210. *Gærtn. t.* 69. Staphylodendron. *Tourn. t.* 386.

Nat. Ord. *Trihilatæ.* Linn. 23. *Rhamni.* Juss. 95. *Celastrinæ.* Brown *Bot. of Terra Austr.* 22. Linnæus in MS. has hinted its affinity to *Celastrus.*

Cal. inferior, of 1 leaf, concave, in 5 deep, coloured, segments, full as large as the corolla. *Pet.* 5, oblong, obtuse, erect, similar to the calyx. *Nectary* cup-shaped, central. *Filam.* thread-shaped, erect, the length of the petals. *Anth.* roundish. *Germ.* superior, rather tumid, in 2 or 3 deep divisions. *Styles* 2 or 3, simple, erect, a little longer than the stamens. *Stigmas* obtuse, near together. *Caps.* 2 or 3, inflated, bladdery, open at the top and obliquely pointed, combined lengthwise by their sutures, where they burst, at the inner side. *Seeds* 2 in each capsule, hard, globose, with a large scar, and an oblique, adjoining, lateral point.

S. pinnata has generally but 2 *styles*, and as many *capsules.*

Shrubs, or *trees*, with opposite *branches* and *leaves;* the latter simply or doubly pinnate, or only ternate; *leaflets* ovate. *Fl.* in drooping clusters, greenish-yellow.

1. S. *pinnata.* Common Bladder-nut.

Leaves pinnate. Styles and capsules but two.

S. pinnata. *Linn. Sp. Pl.* 386. *Willd. v.* 1. 1497. *Fl. Br.* 337. *Engl. Bot. v.* 22. *t.* 1560. *Ehrh. Arb.* 103.

S. n. 831. *Hall. Hist. v.* 1. 371.

Staphylodendron. *Raii Syn.* 468. *Matth. Valgr. v.* 1. 249. *f. Camer. Epit.* 171. *f. Bauh. Hist. v.* 1. 274. *f. Duham. Arb. v.* 2. *t.* 77. *Dalech. Hist.* 102. *f.*

Nux vesicaria. *Ger. Em.* 1437. *f. Dod. Pempt.* 818. *f.*

In hedges and thickets, but rare.

About Pontefract, Yorkshire, scarcely in sufficient plenty to be deemed certainly wild. *Ray.* About Ashford, Kent. *Parkinson.* Truly indigenous in Yorkshire. *Mr. Hailstone.*

Shrub. *June.*

A smooth, branching *shrub*, with foliage resembling some kind of Ash, and throwing up many suckers. *Leaves* deciduous, opposite, pinnate; *leaflets* 2 pair, with an odd one, uniform, ovate, acute, finely serrated. *Stipulas* general and partial, awl-shaped, membranous, deciduous, 2 to each pair of leaflets. *Clusters* terminating the young branches, drooping, interrupted, and partly compound, many-flowered. *Bracteas* linear, membranous, coloured, deciduous. *Fl.* of a pale greenish yellow, bell-shaped, pendulous, inodorous. *Caps.* much larger, green, light and inflated. *Seeds* pale brown, appearing as if varnished.

Haller says children eat the kernels; but according to Gerarde, their first sweetness is succeeded by a nauseous taste, and an emetic effect. Singularity rather than beauty procures this plant a place in gardens.

176. TAMARIX. Tamarisk.

Linn. Gen. 148. *Juss.* 313. *Fl. Br.* 338. *Lam. t.* 213. *Gærtn. t.* 61. Tamariscus. *Tourn. Inst.* 661.

Nat. Ord. *Succulentæ.* Linn. 13. *Portulaceæ.* Juss. 86.

Cal. inferior, of 1 leaf, in 5 deep, obtuse, erect, permanent segments, half the length of the corolla. *Pet.* 5, obovate, obtuse, concave, spreading. *Filam.* 5, capillary, inserted into the calyx, opposite to its segments; sometimes with 5 intermediate ones. *Anth.* incumbent, roundish. *Germen* superior, ovate, pointed. *Style* none. *Stigmas* 3, revolute, obtuse, downy. *Caps.* ovate-oblong, pointed, triangular, longer than the calyx, of 1 cell, and 3 valves. *Seeds* numerous, minute, with a stalked, feathery crown.

Slender, pliant, branching *shrubs*, with minute, fleshy, sessile *leaves*. *Fl.* reddish, in dense, lateral, as well as terminal, *clusters*.

1. T. *gallica*. French Tamarisk.

Stamens five. Lateral clusters numerous. Leaves lanceolate, spurred, acute. Branches smooth.

T. gallica. *Linn. Sp. Pl.* 386. *Willd. v.* 1. 1498. *Fl. Br.* 338. *Engl. Bot. v.* 19. *t.* 1318. *Fl. Græc. v.* 3. 85. *t.* 291. *Rees's Cyclop. v.* 35. *Tr. of Linn. Soc. v.* 3. 333. *Ehrh. Pl. Off.* 364.
T. floribus pentandris. *Mill. Ic.* 175. *t.* 262. *f.* 1.
T. narbonensis. *Dalech. Hist.* 180. *f.*
T. major, sive arborea, narbonensis. *Bauh. Hist. v.* 1. *p.* 2. 350. *f.*
Tamariscus narbonensis. *Tourn. Inst.* 661. *Ger. Em.* 1378. *f. Lob. Ic. v.* 2. 218. *f.*
Myrica. *Matth. Valgr. v.* 1. 136. *f. Camer. Epit.* 74. *f.* 1.
M. sylvestris prima. *Clus. Hist. v.* 1. 40. *f.*

On rocks and cliffs on the south coast of England.
Plentiful on banks about the Lizard Point, and on St. Michael's Mount, Cornwall. *D. Gilbert, Esq. M.P.* Near Hurst castle, Hants. *Dr. Maton.* Near Hastings. *Bishop of Carlisle and Mr. Menzies.*
Shrub. *July.*
Stem slender, with abundance of long, drooping, red, shining branches. *Leaves* minute, scattered or imbricated, deciduous, lanceolate, acute, smooth, with a loose spur at the base. *Clusters* lateral and terminal, stalked, dense, cylindrical, of numerous, nearly sessile, reddish or white, bracteated *flowers*, without scent.
Commonly planted in English gardens and shrubberies, long before Archbishop Grindall imported this species or *T. germanica*, it is not clear which, to cure indurations of the spleen. See Camden's Life of Queen Elizabeth. Sheep feed greedily on the French Tamarisk, for the sake of its salt taste.

177. CORRIGIOLA. Strapwort.

Linn. Gen. 149. *Juss.* 313. *Fl. Br.* 338. *Lam. t.* 213. *Gærtn. t.* 75.
Polygonifolia. *Dill. Giss. append.* 95. *t.* 3.

Nat. Ord. *Holeraceæ.* Linn. 12. *Portulaceæ.* Juss. 86.

Cal. inferior, of 5 obovate, concave, spreading, permanent leaves, as large as the corolla. *Pet.* 5, obovate, spreading entire, not bigger than the calyx-leaves. *Filam.* awl-shaped, small, not half so long as the petals, alternate with them, inserted into the calyx. *Anth.* of 2 roundish lobes. *Germ.* superior, ovate, with 3 slight angles. *Styles* 3, short, spreading. *Stigmas* obtuse. *Seed* 1, large, naked, roundish with 3 angles, wrinkled, covered by the closed calyx.
Herbaceous, annual, smooth, with scattered, simple, undivided *leaves*, and interrupted *clusters* of white *flowers*. Only 1 species.

1. C. *littoralis*. Sand Strapwort.

C. littoralis. *Linn. Sp. Pl.* 388. *Willd. v.* 1. 1506. *Fl. Br.* 339. *Engl. Bot. v.* 10. *t.* 668. *Fl. Græc. v.* 3. 86. *t.* 292. *Dicks. Dr. Pl.* 61. *H. Sicc. fasc.* 14. 10. *Fl. Dan. t.* 334.

C. n. 842. *Hall. Hist. v.* 1. 375.

Polygoni, vel Linifolia per terram sparsa, flore, Scorpioides. *Bauh. Hist. v.* 3. *p.* 2. 379. *f.*

Polygonum littoreum minus, flosculis spadiceo-albicantibus. *Bauh. Pin.* 281. *Prodr.* 131. *Moris. v.* 2. 593. *sect.* 5. *t.* 29. *f.* 1.

P. minus, spermate in cauliculorum extremis acervato, thlaspios sapore. *Cupan. Panphyt. cd.* 1. *v.* 1. *t.* 76.

On the southern coast of England.

Found by Mr. Hudson, on Slapham sands beyond Dartmouth, and near the Star point. *Mr. Martin.* On the beach near the tin mine at Helston, Cornwall. *F. Borone.*

Annual. *July, August.*

Root small and tapering. *Stems* several inches long, spreading on the ground in every direction, flaccid, not much branched, round, leafy, flowering at the extremity. *Leaves* linear-lanceolate, obtuse, entire, glaucous, rather fleshy, each tapering at the base into a short *footstalk*. *Stipulas* in pairs, acute, membranous. *Clusters* terminal and lateral, subdivided or interrupted, of numerous, pearly, often sessile, *flowers*. *Seed* black.

C. capensis, Willd. v. 1. 1507, appears not specifically distinct.

PENTANDRIA TETRAGYNIA.

178. PARNASSIA. Grass of Parnassus.

Linn. Gen. 151. *Juss.* 245. *Fl. Br.* 339. *Tourn. t.* 127. *Lam. t.* 216. *Gærtn. t.* 60.

Nat. Ord. *Campanaceæ*. Linn. 29. Akin to *Capparides*. Juss. 64. Surely most allied to *Saxifragæ*. Juss. 84.

Cal. inferior, of 1 leaf, in 5 very deep, oblong, spreading, permanent segments. *Pet.* 5, ovate, obtuse, concave, spreading, longer than the calyx, with several longitudinal pellucid ribs, and sometimes fringed at the margins. *Nectaries* 5 fleshy scales, attached to the claws of the

petals, each fringed at the upper edge with a row o. bristles, from 3 to 13 in number, all much shorter than the petals, and each bearing a small transparent globe. *Filam.* awl-shaped, spreading, every one in its turn incumbent over the *pistil.* *Anth.* heart-shaped, flattened. *Germ.* ovate, large. *Styles* none. *Stigmas* 4, obtuse, permanent, subsequently spreading and rather enlarged. *Caps.* of 4 cells, and 4 valves, ovate, with 4 slight furrows, opposite to the partitions, in the middle of each valve; receptacles 4, linear, abruptly terminating the partitions at their inner edges. "*Seeds* numerous, oblong, curved upwards, each bordered with a narrow, longitudinal wing." *Gærtner.*

Roots fibrous, perennial. *Herbs* smooth. *Stems* simple, each bearing one *leaf*, and one white, very elegant, *flower*. *Leaves* undivided, entire, ovate, heart or kidney-shaped; radical ones stalked.

1. P. *palustris.* Common Grass of Parnassus.

Leaves heart-shaped. Bristles of each nectary numerous.

P. palustris. *Linn. Sp. Pl.* 391. *Willd. v.* 1. 1516. *Fl. Br.* 340. *Engl. Bot. v.* 2. *t.* 82. *Rel. Rudb.* 34. *f.* *Mill. Illustr. t.* 15. *Hook. Lond. t.* 1. *Scot.* 96. *Fl. Dan. t.* 584. *Ehrh. Pl. Off.* 133.

P. n. 832. *Hall. Hist. v.* 1. 371.

P. vulgaris et palustris. *Raii Syn.* 355.

Gramen Parnassi. *Ger. Em.* 840. *f.* *Lob. Ic.* 603. *f.*

G. Parnasium. *Dod. Pempt.* 564. *f.*

Hepatica alba. *Cord. Hist.* 152, 2. *f.* *Gesn. Fasc.* 9. *t.* 4. *f.* 11.

Pyrola rotundifolia palustris nostras, flore unico ampliore. *Moris. v.* 3. 505. *sect.* 12. *t.* 10. *f.* 3.

On spongy bogs and commons, especially in mountainous countries, plentifully. Not rare in Norfolk.

Perennial. *September, October.*

The *stems* are about a span high, angular and twisted. Radical *leaves* several, heart-shaped, more or less acute, with several longitudinal ribs. *Footstalks* 3 or 4 times the length of their leaves. *Stem-leaf* nearly sessile, not half way up the stem. *Fl.* about an inch wide, scentless, each *petal* marked with greenish pellucid ribs. Balls of the *nectaries* yellow. This is one of our most elegant native plants. There are several other species, in America and Nepal, abundantly distinguished by various characters, besides the smaller number of the bristles of their nectaries. Professor Hooker was unfortunately led to alter the generic and specific character by Forskall, who referred to this genus a most evident *Swertia.* See *S. decumbens. Willd. Sp. Pl. v.* 1. 1330.

PENTANDRIA PENTAGYNIA.

179. STATICE. Thrift.

Linn. Gen. 153. *Juss.* 92. *Fl. Br.* 340. *Tourn. t.* 177. *Lam. t.* 219. *Gærtn. t.* 44.

Limonium. *Tourn. t.* 177.

Nat. Ord. *Aggregatæ.* Linn. 48. *Plumbagines.* Juss. 33.

Cal. inferior, of 1 leaf, funnel-shaped; tube contracted; limb undivided, plaited, membranous, dry and permanent. *Cor.* funnel-shaped, of 5 *petals*, tapering downward, combined at the base, dilated upwards, obtuse, spreading. *Filam.* awl-shaped, shorter than the petals, and attached to their claws. *Anth.* incumbent. *Germen* roundish, very minute. *Styles* thread-shaped, spreading, permanent. *Stigmas* acute. *Caps.* oblong, somewhat cylindrical, membranous, of 1 cell, and 1 valve, with 5 points; clothed with the permanent calyx, and surmounted by its filmy border. *Seed* solitary, elliptic-oblong, pendulous by a capillary receptacle.

Character of the fruit cor-rected from Gærtner.

Rigid perennial herbs, with simple, chiefly radical, *leaves*. *Fl.* red, purple, or very rarely yellow, without scent, everlasting; either capitate, or in aggregate, panicled *spikes*.

1. S. *Armeria.* Common Thrift. Sea Gilliflower.

Stalks simple. Flowers capitate. Awns of the calyx minute. Leaves linear.

S. Armeria. *Linn. Sp. Pl.* 394. *Willd. v.* 1. 1522. *Fl. Br.* 341. *Engl. Bot. v.* 4. *t.* 226. *Hook. Scot.* 97.

S. n. 835. *Hall. Hist. v.* 1. 372.

S. montana minor. *Raii Syn.* 203.

Limonium aphyllocaulon minimum vulgatius, flore globoso. *Moris. v.* 3. 601. *sect.* 15. *t.* 1. *f.* 29.

Caryophyllus marinus omnium minimus. *Lob. Ic.* 452. *f. Ger. Em.* 602. *f.*

Caryophylleus flos, aphyllocaulos vel junceus, minor et major. *Bauh. Hist. v.* 3. *p.* 2. 336. *f.*

On muddy sea shores, as well as in the clefts of marine rocks; and about the borders of alpine rills, on the loftiest mountains.

Perennial. *July, August.*

Root long, and woody. *Leaves* numerous, all radical, lax, linear, channelled, smooth, a little fleshy, of a deep green. *Stalks* a

span high, simple, round, wavy, downy, each at its first protrusion sheathed in a brown tubular membrane, scarcely an inch long, which is therefore soon torn from its base, and carried up along with the brown outer *bracteas*, to which it is attached. *Fl.* numerous, rose-coloured, inodorous, in a dense globular head. *Inner bracteas* (the *involucrum* of Linnæus) several, obovate, with a pellucid filmy border. *Cal.* small, erect, with 5 very minute marginal bristles. *Capsule* crowned with the 5, bristle-like, hairy, permanent *styles*.

A common ornament of rustic gardens, where it serves for edgings of flower-beds; nor does this plant suffer much from the smoke, even of London.

2. S. *Limonium*. Blue Spiked Thrift. Common Sea Lavender.

Stalks panicled, round; spikes level-topped. Leaves elliptic-oblong, single-ribbed, smooth, with a nearly terminal bristle.

S. Limonium. *Linn. Sp. Pl.* 394. *Willd. v.* 1. 1523. *Fl. Br.* 341. *Engl. Bot. v.* 2. *t.* 102. *Hook. Scot.* 97. *Fl. Dan. t.* 315.

Limonium. *Raii Syn.* 201. *Ger. Em.* 411. *f.* 1. *Matth. Valgr. v.* 2. 329. *f. Camer. Epit.* 721. *f. Lob. Ic.* 295. *f.* 1. *Dalech. Hist.* 1024. *f.* 1.

β. L. minus. *Raii Syn.* 202.

L. parvum. *Ger. Em.* 411. *f.* 2. *Lob. Ic.* 295. *f.* 2.

γ. L. anglicum minus, caulibus ramosioribus, floribus in spicis rariùs sitis. *Raii Hist. v.* 3. 247. *Dill. in Raii Syn.* 202.

On muddy sea shores, and about the mouths of large rivers, common.

Perennial. *July, August.*

Root woody and tough. *Leaves* leathery, glaucous, usually 2 or 3 inches long, upright, tapering downward into bordered *footstalks*. *Panicle* alternately branched, with a greater or less number of reclining *spikes*, of imbricated, upright *flowers*, each of which is sheathed in a green tubular *bractea*, filmy and shining at the margin. *Cal.* tinged with red. *Pet.* of a fine blue; paler externally. Few plants vary more in luxuriance, but the *flowers* preserve their natural size. β is a very diminutive variety; γ I have not ascertained, but the *flowers* being more or less crowded is a matter of small moment.

3. S. *reticulata*. Matted Thrift, or Sea Lavender.

Stalks panicled, prostrate, zigzag, dotted; lower branches barren. Leaves wedge-shaped, rather acute, without points.

S. reticulata. *Linn. Sp. Pl.* 394. *Willd. v.* 1. 1526. *Fl. Br.* 342. *Engl. Bot. v.* 5. *t.* 328. *Hook. Scot.* 97. *Hill Fl. Br. t.* 25. *f.* 2.

On muddy sea shores, chiefly on the eastern coast of England.

In salt marshes, all along the northern coast of Norfolk, very abundant; also near Wisbeach. *Engl. Bot.*

Found by Mr. Goldie, at the Mull of Galloway, on the west coast of Scotland. *Hooker.*

Perennial. *July, August.*

Root strong and woody. *Leaves* small, spatulate, stalked. *Flower-stalks* prostrate, dotted all over, which is most visible in dry specimens, very much branched, spreading, zigzag and entangled, with an ovate, sharp, membranous *bractea* at each divarication. *Barren branches* often reflexed. *Spikes* simple, terminal, numerous, each of a few purplish-blue *flowers*, bracteated like the last.

The history of the foreign species of *Statice* is so little understood, that I am cautious in quoting synonyms. The present plant is not unlike the figures of *Limonium parvum* in Lobel and Gerarde, see *S. Limonium* β; but it does not answer to Ray's observation, made "in the royal garden at St. James's," of the *leaves* being bordered down to the root, so as to have really no *foot-stalks.*

180. LINUM. Flax.

Linn. Gen. 153. *Juss.* 303. *Fl. Br.* 342. *Tourn. t.* 176. *Lam. t.* 219. *Gærtn. t.* 112.

Nat. Ord. *Gruinales.* Linn. 14. Akin to *Caryophylleæ.* Juss. 82. *Linéæ.* DeCand. 15.

Cal. inferior, of 5 lanceolate, erect, permanent leaves, smaller than the corolla. *Pet.* 5, moderately spreading, gradually dilated upwards, obtuse, or abrupt. *Filam.* 5, as long as the calyx, awl-shaped, erect, inserted into an annular *floral receptacle*, along with the petals, and 5 shorter, intermediate, imperfect ones. *Anth.* arrow-shaped. *Germ.* superior, ovate. *Styles* thread-shaped, erect, the length of the stamens. *Stigmas* bluntish, spreading, undivided. *Caps.* nearly globular, obscurely 5-sided, with 10 cells, and 10 valves, combined in pairs. *Seeds* solitary, ovate, acute, compressed, polished.

Herbaceous or shrubby, smooth or hairy. *Leaves* simple, entire, mostly alternate. *Fl.* lateral or terminal, blue or yellow, rarely white. Fibres of the *bark* very tenacious. *Seeds* mucilaginous, without *albumen.* The *calyx* affords the most certain specific characters.

* *Leaves alternate.*

1. L. *usitatissimum.* Common Flax.

Calyx-leaves ovate, acute, with three ribs. Petals crenate. Leaves lanceolate, alternate. Stem mostly solitary.

L. usitatissimum. *Linn. Sp. Pl.* 397. *Willd. v.* 1. 1533. *Fl. Br.* 342. *Engl. Bot. v.* 19. *t.* 1357. *Curt. Lond. fasc.* 5. *t.* 22. *Woodv. Med. Bot. t.* 111. *Mart. Rust. t.* 133. *Hook. Scot.* 97.

L. n. 836. *Hall. Hist. v.* 1. 373.

L. sylvestre. *Matth. Valgr. v.* 1. 375. *f.*

L. sylvestre, sativum planè referens. *Raii Syn.* 362.

β Linum. *Camer. Epit.* 200. *f. Bauh. Hist. v.* 3. *p.* 2. 450. *f. Fuchs. Hist.* 471. *f. Brunf. v.* 1. 170. *f. Raii Syn.* 362.

L. germanicum. *Trag. Hist.* 353. *f.*

L. sativum. *Ger. Em.* 556. *f.*

In cultivated fields, frequent.

Annual. *July.*

Root slender. *Herb* very smooth. *Stem* 18 inches or 2 feet high, round, straight, leafy, corymbose at the summit. *Leaves* scattered, sessile, acute, 3-ribbed, rather glaucous; the lowermost short and blunt. *Fl.* several, erect, in a corymbose *panicle*, blue, glossy, veiny. *Cal.* with 3 prominent ribs, and a membranous irregular margin.

β is merely the more luxuriant cultivated state of the same plant. The *seeds* give out an abundant mucilage to boiling water, and yield by pressure the well-known linseed oil. The fibrous substance of the *bark*, duly prepared, makes the most delicate and strong vegetable thread that has yet been discovered. All these qualities betray a relationship to the Mallow tribe, or *Columniferæ*; as the botanical characters bring *Linum* towards *Geranium*, rather than to the *Caryophylleæ*. A learned German botanist, of more technical than practical skill, once published *L. usitatissimum* for a new *Geranium*, as M. L'Heritier, who had a specimen from him, informed me.

2. L. *perenne.* Perennial Blue Flax.

Calyx-leaves obovate, obtuse, obscurely five-ribbed, naked. Leaves linear-lanceolate. Stems numerous, ascending.

L. perenne. *Linn. Sp. Pl.* 397. *Willd. v.* 1. 1534. *Fl. Br.* 343. *Engl. Bot. v.* 1. *t.* 40. *Mart. Rust. t.* 134.

L. calycibus capsulisque obtusis, foliis alternis lanceolatis acutis, caulibus ramosissimis. *Mill. Ic.* 111. *t.* 166. *f.* 2.

L. sylvestre cæruleum perenne erectius, flore et capitulo majore. *Raii Syn.* 362.

β. L. sylvestre cæruleum perenne procumbens, flore et capitulo minore. *Raii Syn.* 362.

On chalky hills.

In Cambridgeshire, Northamptonshire, and Westmoreland. *Ray.* At Marham, Norfolk.

Perennial. *June, July.*

Root woody, much branched at the summit. *Stems* numerous, a foot high, more or less ascending, round, smooth, leafy; in β procumbent. *Leaves* smaller and narrower than the foregoing. Branches of the *panicle* racemose. *Fl.* like the last in colour, but smaller. *Calyx-leaves* elliptical, obtuse, naked at the edges, each with 5 ribs, of which the middle one is the largest. *Stamens* variable in length. *Stigmas* bluntish, somewhat capitate.

3. L. *angustifolium.* Narrow-leaved Pale Flax.

Calyx-leaves elliptical, three-ribbed, naked, pointed as well as the capsule. Leaves linear-lanceolate, with three ribs. Stems numerous.

L. angustifolium. *Huds.* 134. *With. ed.* 2. 329. *Fl. Br.* 344. *Engl. Bot. v.* 6. *t.* 381.

L. narbonense. *Allion. Pedem. v.* 2. 108, from the author; but not of Linnæus.

L. tenuifolium. *With. ed.* 3. 322. *Linn. Sp. Pl.* 399, *var.* ζ.

L. sylvestre angustifolium, floribus dilutè purpurascentibus vel carneis. *Bauh. Pin.* 214. *Raii Syn.* 362.

L. sylvestre tenuifolum. *Ger. Em.* 558. *f.*

In sandy or chalky pastures, especially towards the sea.

About St. Ives and Truro, Cornwall, plentifully. *Ray.* In Sussex and Kent. *Sherard.* In several parts of Kent. *Hudson.* Near Walsingham, and in Gunton fields, Norfolk. *Rev. H. Bryant.* At Darsham, Suffolk. *Mr. Davy.* In a field by Allerton hall, near Liverpool. *Mr. J. Shepherd.*

Perennial. *July.*

Like the last in *root* and *herbage,* but the *stems* are fewer, and always nearly upright. *Leaves* with 3, sometimes 5, ribs. *Panicle* of fewer *flowers,* scarcely racemose. *Calyx-leaves* elliptical, with a sharp point; their lateral ribs most evident after the flower is faded. *Petals* pale purple, with a slight notch. *Stamens* short. *Styles* swelling upwards. *Capsule* considerably pointed.

The true Linnæan *L. tenuifolium,* Haller's n. 838, often confounded with this, has a taper-pointed long *calyx,* fringed with glands. Probably several synonyms of old authors might be referred to our *angustifolium,* if we could see their original specimens. But neither their descriptions nor figures are sufficient to ascertain the plants.

** *Leaves opposite.*

4. L. *catharticum.* Purging Flax. Mill-mountain.

Leaves opposite, obovate-lanceolate. Panicle forked; partly drooping. Petals acute.

L. catharticum. *Linn. Sp. Pl.* 401. *Willd. Sp. Pl. v.* 1. 1541. *Fl. Br.* 344. *Engl. Bot. v.* 6. *t.* 382. *Curt. Lond. fasc.* 3. *t.* 19. *Mart. Rust. t.* 135. *Hook. Scot.* 97.
L. n. 839. *Hall. Hist. v.* 1. 374.
L. sylvestre catharticum. *Raii Syn.* 362. *Ger. Em.* 560. *f.*
L. pratense, flosculis exiguis. *Bauh. Pin.* 214.
Chamælinum subrotundo folio. *Barrel. Ic. t.* 1165. *f.* 1.
Spergula bifolia, lini capitulis. *Loes. Pruss.* 261. *t.* 80.
Alsine verna glabra, flosculis albis, vel potiùs Linum minimum. *Bauh. Hist. v.* 3. *p.* 2. 455. *f.*

In dry pastures.
Annual. *June—August.*
Root very small and tapering. *Herb* smooth. *Stems* 1 or more, slender and delicate; in the former case very straight and upright; in the latter curved, and ascending obliquely; seldom more than a foot high; all bearing many pairs of upright, obtuse, bright green *leaves*, and a spreading, forked, terminal *panicle*. The pretty little white tremulous *flowers* are pendulous before expansion. *Calyx-leaves* serrated, single-ribbed. *Pet.* acute, entire. *Stigmas* capitate.
This plant is bitter, and powerfully, but, as it seems, not dangerously, cathartic. Dr. Withering found 2 drams, or more, in a dose, of the dried herb, useful in obstinate rheumatisms.

181. SIBBALDIA. Sibbaldia.

Linn. Gen. 155. *Juss.* 337. *Fl. Br.* 345. *Lam. t.* 221. *Gærtn. t.* 73.

Nat. Ord. *Senticosæ.* Linn. 35. *Rosaceæ.* Juss. 92.

Cal. inferior, of 1 leaf; the border in 10 elliptic-lanceolate, veiny, spreading, permanent segments; the 5 innermost largest. *Pet.* 5, obovate, tapering at the base, inserted into the rim of the calyx, shorter than its smaller segments, to which they are opposite. *Filam.* 5, awl-shaped, shorter than the petals, inserted into the rim of the calyx between them. *Anth.* roundish, incumbent. *Germ.* 5, occasionally 10, ovate, compressed, very short. *Styles* lateral, from about the middle of each germen, as long as the stamens. *Stigmas* obtuse. *Seeds* 5, ovate, smooth, rather compressed, in the bottom of the enlarged, somewhat hardened, converging calyx.
Herbaceous, of humble growth. *Leaves* ternate. *Stipulas* attached to the footstalks. *Fl.* terminal, corymbose.

1. S. *procumbens.* Procumbent Sibbaldia.

Leaflets wedge-shaped, with three terminal teeth.

S. procumbens. *Linn. Sp. Pl.* 406. *Fl. Lapp. ed.* 2. 82. *Willd. v.* 1. 1567. *Fl. Br.* 345. *Engl. Bot. v.* 13. *t.* 897. *Dicks. H. Sicc. fasc.* 10. 12. *Hook. Scot.* 97. *Fl. Dan. t.* 32.

Fragaria n. 1116. *Hall. Hist. v.* 2. 46.

Fragariæ sylvestri affinis planta, flore luteo. *Sibb. Scot. p.* 2. 25. *t.* 6. *f.* 1.

Pentaphylloides pumila, foliis ternis ad extremitates trifidis. *Raii Syn.* 256.

Scotch Cinquefoil. *Pet. H. Brit. t.* 41. *f.* 7.

On the summits of the Highland mountains of Scotland, in a micaceous soil, plentiful.

Perennial. *July.*

Roots woody, tufted, much branched at the summit. *Stems* herbaceous, spreading or procumbent, from 1 to 3 inches long, round, leafy, but little subdivided, clothed with coarse upright hairs, like the rest of the herbage. *Leaflets* $\frac{1}{2}$ an inch to an inch long, bright green, veiny; the middle tooth smallest; the lateral ones sometimes cloven. *Footstalks* longer than the leaflets, with a pair of attached, pointed, parallel, membranous *stipulas* at the bottom, indicative of the natural order. *Fl.* in corymbose leafy tufts. *Cal.* large, hairy. *Pet.* small, yellow. The whole plant is astringent, like others of the same tribe. Plukenet's *t.* 212, *f.* 3, is most evidently *Potentilla subacaulis*, a much more soft and downy plant, with solitary flowers, of a larger size. To this Bauhin's synonyms, in Linn. and Willdenow, belong.

PENTANDRIA HEXAGYNIA.

182. DROSERA. Sun-dew.

Linn. Gen. 154. *Juss.* 245. *Fl. Br.* 346. *Lam. t.* 220. *Gærtn. t.* 61. Ros Solis. *Tourn. t.* 127.

Nat. Ord. *Gruinales.* Linn. 14. Allied to *Capparides.* Juss. 64. *Droseraceæ.* DeCand. 30.

Cal. inferior, of 1 leaf, in 5 or more, deep, acute, permanent segments. *Pet.* 5—8, obovate-oblong, obtuse, with claws, moderately spreading, rather longer than the calyx. *Filam.* 5—8, awl-shaped, the length of the calyx. *Anth.* small, roundish. *Germen* roundish. *Styles* 6—8, simple,

the length of the stamens. *Stigmas* club-shaped. *Caps.* ovate, of 1 cell, with 3 or 4 valves. *Seeds* numerous, minute, obovate, rough, attached to the inside of each valve, chiefly in the middle.

Herbaceous, often stemless, clothed with glandular viscid hairs. *Leaves* either undivided, or lobed, entire. *Fl.* terminal, racemose, rarely solitary. *Pet.* red, or white.—This genus seems allied on the one hand to *Saxifraga*, on the other to *Geranium*, though without any great technical agreement with either. It necessarily becomes the type of a new order, which has nothing to do with the *Capparides*.

1. D. *rotundifolia*. Round-leaved Sun-dew.

Leaves depressed, nearly orbicular, on hairy footstalks. Flower-stalks radical, racemose.

D. rotundifolia. *Linn. Sp. Pl.* 402. *Willd. v.* 1. 1543. *Fl. Br.* 346. *Engl. Bot. v.* 13. *t.* 867. *Hull* 67. *Hook. Scot.* 98. *Fl. Dan. t.* 1028. *Bull. Fr. t.* 181. *f.* A.

Rorella n. 834. *Hall. Hist. v.* 1. 372.

R. rotundifolia perennis. *Raii Syn.* 356.

Ros Solis folio rotundo. *Bauh. Pin.* 357. *Raii Syn.* 356. *Ger. Em.* 1556. *f. Barrel. Ic. t.* 251. *f.* 1. *Moris. v.* 3. 620.

Rorida, sive Ros Solis, major. *Lob. Ic.* 811. *f.*

Salsirora, seu Sponsa Solis. *Thal. Harcyn.* 116. *t.* 9. *f.* 1.

Round Sun-dew. *Pet. H. Brit. t.* 63. *f.* 10.

On mossy turfy bogs frequent.

Perennial. *July, August.*

Root fibrous. *Stem* for the most part entirely wanting. *Leaves* numerous, depressed, orbicular, more or less obtuse, concave, purplish, about ½ an inch broad, each tapering into a flat *footstalk*. The whole disk of the leaf, but especially its margin, is beset with red inflexed hairs, discharging from their ends a drop of viscid acrid fluid. These hairs have been thought irritable, so as to contract when touched, imprisoning insects somewhat in the manner of the American *Dionæa Muscipula*, a plant allied to *Drosera*. *Fl.* several, in a simple cluster, drooping or revolute while young, on one or two simple, round, erect, smooth *stalks*, 3 or 4 inches high. *Bracteas* solitary under each partial stalk, awl-shaped, deciduous. *Petals* white, always 5, as well as the *stamens*.

The whole plant, except the red hairs of the leaves, turns blackish in drying. Dr. Williams, Professor of Botany at Oxford, as well as the late Dr. Withering, observed this, and the following, occasionally to acquire a stem. Authors of the greatest eminence have erred in attributing 5 *styles* to the present genus, whereas

they are always 6, in this species and *D. longifolia;* being always double the number of the valves of the *capsule,* in every known *Drosera.*

In Switzerland the Round-leaved Sun-dew was remarked, by the late Mr. Davall, to be much more rare than the Long-leaved, and never found with it as in Britain.

2. D. *longifolia.* Long-leaved Sun-dew.

Leaves obovate, erect, on naked footstalks. Flower-stalks radical, racemose.

D. longifolia. *Linn. Sp. Pl.* 403. *Willd. v.* 1. 1544. *Fl. Br.* 347. *Engl. Bot. v.* 13. *t.* 868. *Hull* 67. *Hook. Scot.* 98.

Rorella n. 833. *Hall. Hist. v.* 1. 872.

R. longifolia perennis. *Raii Syn.* 356.

Ros Solis. *Dod. Pempt.* 474. *f. Dalech. Hist.* 1212. *f.*

R. Solis folio oblongo. *Bauh. Pin.* 357. *Raii Syn.* 356. *Ger. Em.* 1556. *f. Moris. v.* 3. 620. *sect.* 15. *t.* 4. *f.* 2.

R. Solis major, seu longifolia. *Barrel. Ic. t.* 251. *f.* 2.

Salsirora, sive Ros Solis. *Thal. Harcyn. t.* 9. *f.* 2.

Long Sun-dew. *Pet. H. Brit. t.* 63. *f.* 11.

On mossy turfy bogs, with the preceding.

Perennial. *July, August.*

Rather larger and taller than the foregoing, and distinguished by its nearly erect, obovate *leaves,* whose *footstalks,* as Dr. Hull first remarked, are smooth and naked, not fringed with glandular hairs, though the disk and edges of the leaves agree in that particular with the former. The *flowers,* as well as their mode of growth, are similar; but Dr. Hull and Mr. Sowerby found the *styles* often varying from 6 to 8. The *petals* and *stamens* are likewise frequently 6.

3. D. *anglica.* Great Sun-dew.

Leaves oblong, obtuse, erect, on naked footstalks. Flower-stalks radical, racemose. Styles eight. Capsules with four valves.

D. anglica. *Huds.* 135. *Fl. Br.* 347. *Engl. Bot. v.* 13. *t.* 869. *With.* 324. *Hull* 68. *Abbot* 72. *Dicks. H. Sicc. fasc.* 2. 7. *Hook. Scot.* 98.

Rorella longifolia maxima. *Raii Syn.* 356.

Ros Solis major, longiore folio et erectiore. *Moris. v.* 3. 620. *sect.* 15. *t.* 4.

Great Long Sun-dew. *Pet. H. Brit. t.* 63. *f.* 12.

On bogs, but rare.

Three miles from Carlisle, towards Scotland. *Ray.* In Lancashire. *Dr. Hull.* Bedfordshire. *Rev. Dr. Abbot.* Abundant on bogs near Smallburgh house of industry, Norfolk. *Mr. Lilly Wigg.* In

several parts of Scotland. *Dickson, Hooker.* Gathered on St. Faith's bogs, Norfolk, in 1781.

Perennial. *July, August.*

About twice the size of *D. longifolia,* with more linear *leaves. Fl.* often reddish, as in that species. *Capsule* oblong, according to Dr. Hull, who has not observed the *styles* to be more frequently 8 than in the *longifolia. Petals* and *stamens* usually, if not always, 8. The linear-oblong shape of the *leaves,* not correctly expressed in the older figures, appears to be the most constant character of *D. anglica;* yet some opportunities of examining these two plants have made me more and more doubtful of their permanent distinction.

PENTANDRIA POLYGYNIA.

183. MYOSURUS. Mouse-tail.

Linn. Gen. 155. *Juss.* 233. *Fl. Br.* 348. *Lam. t.* 221. *Gærtn. t.* 74. Myosuros. *Dill. Giss. app.* 106. *t.* 4.

Nat. Ord. *Multisiliquæ.* Linn. 26. *Ranunculaceæ.* Juss. 61.

Cal. inferior, of 5 lanceolate, concave, coloured, spreading, deciduous leaves; spurred at the base, below their point of insertion. *Pet.* 5, very small, shorter than the calyx, tubular and bearing honey at their base, expanding obliquely at the inner side. *Filam.* 5, or more, linear, the length of the calyx. *Anth.* terminal, erect, of 2 linear, parallel cells. *Germens* very numerous, ovate, seated on a long, tapering, upright *receptacle. Styles* none. *Stigmas* solitary, minute. *Seeds* oblong, acute, naked, imbricated all over the surface of the elongated, columnar, acute, *receptacle.*

A small annual herb, without a *stem. Leaves* linear, entire. *Fl.* small, yellowish, solitary, on simple, radical *stalks. Myosurus* may be thought too closely allied to *Ranunculus;* especially as the number of *stamens* varies much, and some of that genus have but 5. The tubular elongated claws of the *petals* indeed afford a distinction.

1. M. *minimus*. Common Mouse-tail.

M. minimus. *Linn. Sp. Pl.* 407. *Willd. v.* 1. 1568. *Fl. Br.* 348. *Engl. Bot. v.* 7. *t.* 435. *Curt. Lond. fasc.* 4. *t.* 26. *Hook. Scot.* 98. *Fl. Dan. t.* 406.

M. n. 1159. *Hall. Hist. v.* 2. 67.

Myosuros. *Raii Syn.* 251. *Bauh. Hist. v.* 3. *p.* 2. 512. *f.* *Lob. Ic.* 440. *f.*

Holosteo affinis, Cauda muris. *Bauh. Pin.* 190.

Cauda muris. *Ger. Em.* 426. *f.* *Tillands Ic. t.* 108.

C. murina. *Dod. Pempt.* 112. *f.*

In cornfields, on a gravelly soil.

Annual. *May.*

Root small, fibrous. *Herb* smooth, varying much in luxuriance. *Leaves* numerous, nearly erect, from 1 to 2 inches long, rather fleshy, narrow, single-ribbed, bluntish; tapering at the base into *footstalks* nearly of their own length. *Flower-stalks* several, taller than the leaves, round, each bearing a small upright *flower*. *Petals* pale yellow. *Germens* 2 or 3 hundred, green, forming a long spike, raised much above the other parts of the flower, and not unaptly answering to the generic name; especially when the *seeds* ripen.

Class VI. HEXANDRIA. *Stamens* 6, *each 3 equal.*

Order I. MONOGYNIA. Pistil 1.

* *Fl. with both calyx and corolla.*

201. FRANKENIA. *Cor.* of 5 *petals. Cal.* of 1 leaf, inferior. *Caps.* of 1 cell, with many *seeds.*

200. BERBERIS. *Cor.* of 6 *petals. Cal.* of 6 leaves, inferior. *Berry* with 2 *seeds.*

202. PEPLIS. *Cor.* of 6 *petals. Cal.* with 6 deep segments, and 6 intermediate plaits. *Caps.* of 2 cells.

Lythrum 2.

** *Fl. without a calyx, superior.*

185. LEUCOJUM. *Cor.* superior, of 6 equal *petals*, bell-shaped. *Stam.* simple, equal.

184. GALANTHUS. *Cor.* sup. of 6 *petals;* 3 innermost shortest, abrupt, notched.

186. NARCISSUS. *Cor.* sup. of 6 petals, attached to a bell-shaped nectary, which conceals the *stamens.*

*** *Fl. without a calyx, inferior.*

196. CONVALLARIA. *Cor.* inferior, deciduous; limb in 6 segments. *Berry* of 3 cells. *Stigma* triangular.

192. HYACINTHUS. *Cor.* inf. deciduous; limb in 6 segments; tube swelling. *Stam.* uniform. *Caps.* of 3 cells. *Seeds* globose.

195. ASPARAGUS. *Cor.* inf. in 6 deep segments, permanent. *Berry* of 3 cells. *Stigmas* 3.

187. ALLIUM. *Cor.* inf. of 6 ovate *petals. Stam.* awl-shaped, flattened. *Stigma* acute. *Seeds* angular.

193. ANTHERICUM. *Cor.* inf. of 6 elliptic oblong *pet. Stam.* thread-shaped. *Stigma* obtuse. *Seeds* angular.

194. NARTHECIUM. *Cor.* inf. of 6 linear-lanceolate *pet.* spreading. *Stam.* woolly. *Seeds* tunicated, tapering at each end.

190. ORNITHOGALUM. *Cor.* inf. of 6 lanceolate *pet.* partly spreading, permanent. *Stam.* dilated at the base.

191. SCILLA. *Cor.* inf. of 6 ovate-oblong *pet.* spreading, deciduous. *Stam.* all thread-shaped.

188. FRITILLARIA. *Cor.* inf. of 6 *pet.* each with a nectariferous cavity at the base withinside.

189. TULIPA. *Cor.* inf. of 6 *pet.*, without *nectaries.* *Style* 0. *Seeds* flat.

197. ACORUS. *Cor.* inf. of 6 *pet.* abrupt. *Style* 0. *Seeds* ovate-oblong. *Spadix* covered with numerous sessile *flowers.*

**** *Fl. without petals.*

198. JUNCUS. *Cal.* of 6 leaves. *Caps.* of 3 cells and 3 valves. *Seeds* numerous, horizontal.

199. LUCIOLA. *Cal.* of 6 leaves. *Caps.* of 1 cell and 3 valves. *Seeds* 3, erect.

Peplis 1. *Polygona.*

Order II. DIGYNIA. Pistils 2.

203. OXYRIA. *Cal.* of 2 leaves. *Pet.* 2. *Seed* 1, compressed, winged.

Order III. TRIGYNIA. Pistils, or Stigmas, 3.

206. SCHEUCHZERIA. *Cal.* 0. *Pet.* 6. *Capsules* 3, inflated. *Seeds* solitary.

208. COLCHICUM. *Cal.* 0. *Cor.* of 1 *pet.* tubular. *Caps.* 3, inflated. *Seeds* numerous.

207. TRIGLOCHIN. *Cal.* of 3 leaves. *Pet.* 3. *Capsule* opening at the base, with 3 valves.

204. RUMEX. *Cal.* of 3 leaves. *Pet.* 3. *Seed* 1, naked, triangular.

205. TOFIELDIA. *Cal.* 3-cleft. *Pet.* 6. *Capsules* 3, with many *seeds.*

Elatine.

Order IV. POLYGYNIA. Pistils numerous.

209. ALISMA. *Cal.* of 3 leaves. *Pet.* 3. *Caps.* 6 or more, aggregate. *Seeds* 1 or 2.

HEXANDRIA MONOGYNIA.

184. GALANTHUS. Snowdrop.

Linn. Gen. 160. *Juss.* 55. *Fl. Br.* 352. *Lam. t.* 230.
Narcissoleucoium. *Tourn. t.* 208. B.

Nat. Ord. *Spathaceæ.* Linn. 9. *Narcissi.* Juss. 17. *Amaryllideæ.* Br. Pr. 296. Two following genera the same.

Cal. none. *Pet.* 6, superior, regular, deciduous; 3 outermost obovate, concave, spreading, equal; 3 innermost shorter, intermediate, erect, wedge-shaped, obtuse, with a notch, internally furrowed. *Filam.* from the summit of the germen, capillary, very short, erect. *Anth.* terminal, much longer, shorter than the inner petals, erect, converging, lanceolate, acute, with a bristly point, discharging their pollen by 2 terminal pores. *Germ.* inferior, globose, abrupt. *Style* cylindrical, longer than the stamens. *Stigma* simple, acute. *Caps.* nearly globular, with 3 obtuse angles, of 3 cells, and 3 valves, each valve with a central partition. *Seeds* numerous, globose, attached to the partitions.

Root a coated bulb. *Leaves* radical, in pairs, linear, entire. *Fl.* on a radical stalk, solitary, drooping, with a distant,

tubular, membranous, cloven *bractea*, the *sheath* (*spatha*) of Linnæus. Only 1 species.

1. G. *nivalis*. Common Snowdrop.

G. nivalis. *Linn. Sp. Pl.* 413. *Willd. v.* 2. 29. *Fl. Br.* 352. *Engl. Bot. v.* 1. *t.* 19. *Abbot* 73. *Hook. Lond. t.* 14. *Scot.* 100. *Hopk. Glott.* 44. *Meyrick Misc. Bot. t.* 2. *Jacq. Austr. t.* 313.

G. n. 1254. *Hall. Hist. v.* 2. 124.

Leucoium bulbosum præcox minus. *Ger. Em.* 147. *f.*

L. bulbosum trifolium minus. *Rudb. Elys. v.* 2. 96. *f.* 4. *Pass. Hort. Florid. t.* 4. *d.*

Narcissus sextus. *Matth. Valgr. v.* 2. 583. *f. Camer. Epit.* 956. *f. Dalech. Hist.* 1525. *f.*

Ηραγγελια. *Renealm. Spec.* 97. *t.* 96.

In meadows, orchards, woods, hedges, and on the banks of rivers. At the foot of the Malvern hills. *Mr. Ballard.* On the banks of the Tees, about Blackwell and Conniscliffe, certainly wild. *Mr. E. Robson.* In Bedfordshire. *Abbot.* On banks about Castlemilk, plentifully; introduced. *Hopkirk.* In Arniston woods, Edinburgh, covering acres of ground; Mr. Maughan and Mr. Shuter. *Hooker.*

Perennial. *February.*

Bulb ovate, scarcely an inch long, acrid, white, with many simple fibres. *Leaves* glaucous, keeled, erect, obtuse, their bases inclosed in one common tubular, membranous, radical *stipula*. *Stalk* 3 or 4 inches high, round, at length overtopped by the gradually increasing, finally decumbent, leaves. *Flower* scentless, pendulous, on a slender, terminal, drooping, *partial stalk*, from the tubular base of a membranous, double-ribbed, forked *bractea*. *Petals* pure white; the 3 innermost with a green blotch near the top, at the outside, and striated with green internally.

So common in gardens, that it is supposed to have escaped from thence; but many persons esteem it really a native. Ray and Dillenius indeed omitted the Snowdrop in their catalogues; but the question how far they were right or wrong can scarcely be determined, and the late Mr. Robson's opinion is one of the most weighty against them. A double-flowered variety is generally cultivated; and a broad-leaved one from Constantinople is exhibited in Gerarde's Herbal.

185. LEUCOJUM. Snowflake.

Linn. Gen. 160. *Juss.* 55. *Fl. Br.* 352. *Lam. t.* 230.

Narcissoleucoium. *Tourn. t.* 208. A, D—F.

Nat. Ord. see *n.* 184.

Cal. none. *Pet.* 6, regular, nearly equal, ovate, rather concave, spreading moderately in the form of a bell; combined at the base; somewhat thickened, and contracted,

at the summit; 3 of them external. *Filam.* from the summit of the germen, flattened, short, equal, erect. *Anth.* terminal, about the same length, linear, obtuse, quadrangular, simple, slightly spreading, opening by 2 terminal pores. *Germ.* inferior, ovate, abrupt. *Style* round, bluntish. *Stigma* acute, with a bristly point. *Caps.* turbinate, obtuse, of 3 cells, and 3 valves, with central partitions. *Seeds* several, globose.

Root a coated bulb. *Leaves* several, radical, linear, entire. *Fl.* one or more, on a radical stalk, drooping. *Bractea* solitary, sheathing.

1. L. *æstivum.* Summer Snowflake.

Flowers several. Style club-shaped.

L. æstivum. *Linn. Sp. Pl.* 414. *Willd. v.* 2. 30. *Fl. Br.* 353. *Engl. Bot. v.* 9. *t.* 621. *Curt. Lond. fasc.* 5. *t.* 23. *Jacq. Austr. t.* 203.

L. bulbosum majus sive multiflorum. *Bauh. Pin.* 55. *Rudb. Elys. v.* 2. 95. *f.* 3.

L. bulbosum majus polyanthemum. *Ger. Em.* 148. *f. Bauh. Hist. v.* 2. 592. *f.*

L. bulbosum polyanthemum. *Dod. Pempt.* 230. *f. Renealm. Spec.* 99. *t.* 100. *f.* 1.

Leuconarcissolirion. *Lob. Ic.* 122. *f.*

In moist meadows, and marshes near rivers.

Close by the Thames between Greenwich and Woolwich, undoubtedly wild; also in the Isle of Dogs. *Curtis.* In a small island in the river, about 3 miles south of Kendal, Westmoreland. *Mr. Gough.* In pastures at Little Stonham, Suffolk. *Mrs. Cobbold.* Near Reading. *Mr. Murray.*

Perennial. *May.*

Bulb roundish. *Leaves* numerous, 1½ or 2 feet long, erect, bright green, linear, obtuse, somewhat concave, and bluntly keeled; all inclosed, with the *flower-stalk*, in one or more very short, membranous, abrupt, entire, radical *stipulas*. *Stalk* upright, about as tall as the leaves, two-edged, hollow, bearing 4 or more pendulous, stalked, white, inodorous *flowers*, with a green, external, as well as internal, spot on each *petal* near the extremity. The uniformity of the *petals* distinguishes the present genus from *Galanthus*. *Bractea* solitary, oblong, concave, erect, as long as the flowers. *Seeds* black.

Common in rustic gardens, where the bulbs multiply without any care.

186. NARCISSUS. Narcissus, or Daffodil.

Linn. Gen. 161. *Juss.* 55. *Fl. Br.* 353. *Tourn. t.* 185. *Lam. t.* 229.

Nat. Ord. see *n.* 184.

Cal. none. *Pet.* 6, ovate, pointed, flat, equal, spreading, attached to the outside of the tube of the nectary, at some distance above its base. *Nectary* of one leaf, funnel-shaped, regular; cylindrical below; dilated into a cup-shaped, coloured border, above the insertion of the petals; containing honey in the bottom of the tube. *Filam.* awl-shaped, inserted into the tube of the nectary, in 2 rows, and shorter than its border. *Anth.* linear, incumbent, bursting along their outer edges. *Germen* inferior, roundish, with 3 blunt angles. *Style* slender, triangular, rising above the stamens. *Stigma* in 3 concave, obtuse segments. *Caps.* roundish, with 3 blunt angles, membranous, of 3 cells and 3 valves, with central partitions. *Seeds* several, globose.

Root a coated bulb. *Leaves* several, radical, in 2 opposite ranks, linear, a little succulent, smooth; either flattish, or semicylindrical and tubular. *Stalk* central, bearing one or many *flowers*, from a terminal, membranous, simple, permanent, sheathing *bractea*. *Fl.* yellowish, or whitish, or partaking of both colours.

1. N. *poeticus*. Poetic Narcissus.

Flowers mostly solitary. Cup of the nectary very short, depressed; membranous and crenate at the margin. Leaves bluntly keeled; their edges reflexed.

N. poeticus. *Linn. Sp. Pl.* 414. *Willd. v.* 2. 34. *Fl. Br.* 353. *Engl. Bot. v.* 4. *t.* 275. *Bull. Fr. t.* 306. *Redout. Liliac. t.* 160.
N. n. 1250. *Hall. Hist. v.* 2. 122.
N. albus, circulo purpureo. *Bauh. Pin.* 48. *Rudb. Elys. v.* 2. 56. *f.* 2.
N. medio purpureus. *Dod. Pempt.* 223. *f. Ger. Em.* 123. *f. Dalech. Hist.* 1517. *f. Pass. Hort. Florid. t.* 19.
N. primus. *Camer. Epit.* 951. *f.*
N. medio rubro communis. *Sweert. Floril. t.* 22. *f.* 3.

In heathy elevated open fields, on a sandy soil.
At Wood-bastwick, and in other parts of Norfolk. *Mr. Rose.* On a rabbit-warren at Shorne, between Gravesend and Rochester. *Mr. Jacob Rayer.*
Perennial. *May.*
Bulb ovate, with a dark-brown skin. *Leaves* 12 to 18 inches long, nearly erect, half an inch broad, of a rather glaucous deep green; rounded and obtuse underneath; their edges acute, recurved; the disk slightly concave, striated with numerous longitudinal veins. *Stem* about as tall as the leaves, straight, hollow, 2-edged; rounded at the sides. *Bractea* brown and dry, cloven, rather longer than the partial stalk. *Flower* large and very beautiful, powerfully fragrant. *Petals* pure white. *Nect.* with a

very shallow yellow cup, the border white internally; of a beautiful crimson next; and at the extreme edge brownish, filmy, and minutely crenate. Sometimes, though very rarely, there are 2 flowers. A noble double variety is frequent in gardens, as well as the more elegant single kind, the real Narcissus of the Greek writers, clearly described by Dioscorides.

2. N. *biflorus*. Pale Narcissus. Primrose peerless.

Flowers in pairs. Cup of the nectary very short, depressed; membranous and crenate at the margin. Leaves acutely keeled; their edges inflexed.

N. biflorus. *Curt. Mag. t.* 197. *Willd. Sp. Pl. v.* 2. 39. *Fl. Br.* 354. *Engl. Bot. v.* 4. *t.* 276. *With.* 332.

N. poeticus. *Huds.* 141. *Wade Dubl.* 96.

N. n. 1250 *β*. *Hall. Hist. v.* 2. 122.

N. pallidus circulo luteo. *Bauh. Pin.* 50. *Rudb. Elys. v.* 2. 57. *f.* 9.

N. medio luteus. *Dod. Pempt.* 223. *f.* *Ger. Em.* 124. *f.* *Dalech. Hist.* 1518. *f.* 1.

N. medio luteus vulgaris. *Raii Syn.* 371.

N. albidus, medio luteus, cum aliquot floribus. *Bauh. Hist. v.* 2. 604. *f.*

In sandy fields.

Near Hornsey church. *Sherard.* On a rabbit-warren at Shorne, Kent. *Mr. J. Rayer.* About Berkhamstead, Herts. *Mr. G. Anderson.* Common in meadows about Dublin. *Mr. De Luc.*

Perennial. *April, May.*

Clearly distinguished from the foregoing, with which Mr. Hudson, like Haller, always confounded it, by the acute keel, and straight sides, of the *leaves*, whose edges moreover are inflexed, not recurved. The *flowers* are smaller, usually 2, rarely solitary, sometimes 3. *Petals* of a pale sulphur-colour. Border of the *nectary* white, crenate.

The scent is less agreeable than the former. Both are almost equally common in gardens, but the *biflorus* is seldom seen double.

3. N. *Pseudo-narcissus*. Common Daffodil.

Flowers solitary. Cup of the nectary bell-shaped, erect, crisped, with six marginal segments; its length equal to that of the ovate petals.

N. Pseudo-narcissus. *Linn. Sp. Pl.* 414. *Willd. v.* 2. 35. *Fl. Br.* 355. *Engl. Bot. v.* 1. *t.* 17. *Hook. Scot.* 100. *Bull. Fr. t.* 389.

N. n. 1252. *Hall. Hist. v.* 2. 123.

N. sylvestris pallidus, calyce luteo. *Bauh. Pin.* 52. *Raii Syn.* 371. *Rudb. Elys. v.* 2. 70. *f.* 8.

Narcissus. *Brunf. Herb v.* 1. 129. *f.* 1.

N. luteus. *Trag. Hist.* 757. *f.*

N. luteus sylvestris. *Dod. Pempt.* 227. *f.* 1, 2. *Dalech. Hist.* 1523. *f.*

N. tertius. *Camer. Epit.* 953. *f.*

N. octavus. *Matth. ed. Bauh.* 860. *f.*
Pseudonarcissus anglicus. *Ger. Em.* 133. *f.*

In rather moist woods and thickets.

Perennial. *March.*

Bulb nearly globular, with a blackish coat. *Leaves* several, erect, about a foot high, rather glaucous, with a blunt keel and flat edges. *Bractea* close to the base of the germen, undivided. *Flower* large, a little drooping, unpleasantly scented. *Pet.* pale yellow, nearly erect, longer than the tube of the *nectary*, which is funnel-shaped, and almost as long as its deep-yellow, crisped and crenate, somewhat angular, cup. *Stam.* from near the bottom of the tube, shorter than the cup. *Anth.* oblong, converging. *Germen* globose, with 3 furrows.

The double Yellow Daffodil, so extremely common in gardens, evidently, by its greener *leaves*, and the uniform golden yellow of the *flowers*, belongs to a different species.

187. ALLIUM. Garlick.

Linn. Gen. 163. *Juss.* 53. *Fl. Br.* 355. *Tourn. t.* 206. *Lam. t.* 242. *Gærtn. t.* 16.

Nat. Ord. *Spathaceæ.* Linn. 9. *Asphodeli.* Juss. 16.

Cal. none. *Pet.* 6, inferior, ovate-oblong, somewhat spreading, regular; the 3 innermost rather the smallest. *Filam.* awl-shaped, more or less flattened, undivided or 3-cleft, rarely 5-cleft, about as long as the corolla. *Anth.* solitary, central, oblong, incumbent. *Germen* superior, turbinate, short, angular, or lobed. *Style* simple, cylindrical or angular, erect. *Stigma* acute. *Caps.* short and broad, with 3 lobes, 3 cells, and 3 membranous valves with central partitions. *Seeds* few, roundish, angular, with a black brittle skin.

Whole herb fetid when bruised, with its appropriate onion or garlick scent. *Bulbs* coated. *Stem* leafy or naked. *Leaves* flat or tubular. *Fl.* numerous, in a dense umbel, red, white, or yellow. *Bractea* sheathing, broad, withering, with many smaller internal ones. Some *bulbs* often intermixed with the flowers.

* *Stem leafy. Leaves flat.*

1. A. *Ampeloprasum.* Great Round-headed Garlick.

Umbel globose, without bulbs. Stem leafy below. Leaves flat. Three alternate stamens deeply three-cleft. Keel of the petals rough.

A. Ampeloprasum. *Linn. Sp. Pl.* 423. *Willd. v.* 2. 63. *Fl. Br.* 355. *Engl. Bot. v.* 24. *t.* 1657. *Fl. Græc. v.* 4. 11. *t.* 312.

A. n. 1218. *Hall. Hist. v.* 2. 104.

A. staminibus alternè trifidis, foliis gramineis, floribus sphæricè congestis longè petiolatis, radice laterali solidâ. *Hall. All.* 16. *n.* 5. *Opusc.* 344. *n.* 5.

A. sphæriceo capite, folio latiore, sive Scorodoprasum alterum. *Bauh. Pin.* 74. *Rudb. Elys. v.* 2. 151. *f.* 6.

A. Holmense sphærico capite. *Raii Syn.* 370.

Ampeloprasum. *Dod. Pempt.* 689. *f.* 690.

Scorodoprasum primum. *Clus. Hist. v.* 1. 190. *f.* *Ger. Em.* 180. *f.* *Lob. Ic. v.* 1. 157. *f.* *Mich. Gen.* 24.

S. dictum. *Bauh. Hist. v.* 2. 558. *f.*

S. latifolium spontaneum italicum, floribus dilutè purpureis odoratis. *Mich. Gen.* 25. *t.* 24. *f.* 5.

In open hilly places, but very rare.

Found by Mr. Newton on the Holms island, in the mouth of the Severn. *Ray.* On the Steep Holms, in August 1803. *Mr. F. B. Wright.*

Perennial. *August.*

Bulbs white, globose, increasing rapidly in a garden, by lateral offsets, till they compose a mass as big as a man's head, resembling a bunch of grapes; whence, I have sometimes thought, the old Greek name of the plant, *Ampeloprasum*, Vine Garlick, might have originated; but a name of similar construction has been applied to several species from their growing in vineyards. In this luxuriant condition it rarely produces *flowers*. Otherwise the *stems* are solitary from each bulb, 2 or 3 feet high, erect, round, solid, simple; leafy in the lower part. *Leaves* alternate, flaccid, flat, linear, near an inch broad, taper-pointed, slightly keeled, single-ribbed; sheathing at the base; rough with minute teeth at the edges, and at the top of the keel. *Stipula* membranous, tubular, undivided, within the sheath of each leaf. *Umbel* solitary, erect, of innumerable light-purple *flowers*, on angular stalks, with a large, concave, deciduous *bractea*, including many small interior ones. *Fl.* uniform, not large, unaccompanied by bulbs. *Corolla* bell-shaped. *Pet.* ovate, concave, all rough at the edges and keel. *Stam.* broad and flat; 3 of them simply pointed; 3 alternate ones with a long slender point, at each side of that which bears the *anther*. *Germen* pyramidal. *Style* triangular. The scent of the whole plant is strong, and of the most disagreeable kind. The nature of the perennial bulbs sufficiently distinguishes this species from the Leek, *A. Porrum*, however similar their herbage.

2. A *arenarium*. Sand Garlick.

Umbel globose, bearing bulbs. Stem leafy below. Leaves flat, with cylindrical sheaths. Bracteas obtuse. Three alternate stamens dilated, three-cleft. Keel of the petals roughish.

A. arenarium. *Linn. Sp. Pl.* 426. *Willd. v.* 2. 69. *Fl. Br.* 356. *Engl. Bot. v.* 19. *t.* 1358. *Hook. Scot.* 100.
A. Scorodoprasum. *Fl. Dan. t.* 290.
A. n. 1222. *Hall. Hist. v.* 2. 106.
A. staminibus alternè trifidis, capite bulbifero, foliis gramineis levitèr serratis. *Hall. All.* 10. *n.* 3. *Opusc.* 336.
A. sylvestre amphicarpon, foliis porraceis, floribus et nucleis purpureis. *Raii Syn.* 370.
A. montanum bicorne latifolium, flore dilutè purpurascente. *Bauh. Pin.* 74. *Rudb. Elys. v.* 2. 155. *f.* 1.
A. seu Moly montanum latifolium primum. *Clus. Pannon.* 213. *f.* 212. *Hist. v.* 1. 193. *f.* *Ger. Em.* 187. *f.* 4.
Porrum planifolium, staminibus alternè trifidis, umbellâ bulbiferâ. *Rupp. Jen. ed. Hall.* 154. *t.* 2. *f.* 2.

In mountainous woods and fields, on a sandy soil, in the North.
Observed by Mr. Lawson, on the Westmoreland mountains. *Ray.* About Lowther in that county. *Mr. Crowe & Mr. Woodward.* At Castle Howard, Yorkshire. *Mr. Teesdale.* About Thorp Arch. *Rev. W. Wood.* In Heslington fields, near York. *Rev. Archdeacon Peirson.* At the foot of mountains, in sandy soils in Scotland, but not common. *Lightfoot.* At Dupplin, Perthshire; Mr. Winch. *Hooker.*
Perennial. *July.*
Bulb small, ovate, with many purplish offsets. *Stem* erect, 2 or 3 feet high, leafy half way up. *Leaves* 1-3rd of an inch broad, grass-green, rough-edged, flat, with long cylindrical sheaths. *Umbel* small, globose, dense. *Bracteas* broad, elliptical, pointless, shorter than the umbel. *Fl.* deep red, bell-shaped, with elliptic-lanceolate, spreading-pointed, rough-keeled *petals*, and intermixed with dark-purple, ovate, pointed bulbs, by which, as well as by the root, the plant is increased. Such species as bear these bulbs among their flowers, scarcely perfect any *seed*.

3. A *carinatum.* Mountain Garlick.

Umbel lax, bearing bulbs. Leaves flat. Bracteas tapering, longer than the umbel. Stamens simple, awl-shaped.

A. carinatum. *Linn. Sp. Pl.* 426. *Willd. v.* 2. 70. *Fl. Br.* 357. *Engl. Bot. v.* 24. *t.* 1658. *Hook. Scot.* 101.
A. n. 1224. *Hall. Hist. v.* 2. 107.
A. umbellâ bulbiferâ, vaginâ bicorni, foliis carinatis. *Hall. All.* 51. *n.* 24. *t.* 1. *f.* 2.
A. inodorum, umbellâ bulbiferâ, vaginâ bicorni, foliis carinatis. *Hall. Opusc.* 391. *n.* 27. *t.* 2. *f.* 2.
A. montanum bicorne purpureum proliferum. *Raii Syn.* 369.
A. montanum bicorne angustifolium, flore purpurascente. *Bauh. Pin.* 74, at the bottom; should be n. 2. *Rudb. Elys. v.* 2. 155. *f.* 2.
A. sive Moly montanum secundum. *Clus. Hist. v.* 1. 193. *f.*
Ampeloprason proliferum. *Lob. Ic.* 156. *f.*

Ampeloprasum. *Camer. Epit.* 323. *f.*
Moly montanum secundum Clusii. *Ger. Em.* 187. *f.*

On mountains and rocks in the North; as well as in sandy ground on the south east coast of England.

Near Settle, Yorkshire. *Ray.* On rocks about Longsleadale, Westmoreland. *Dr. Richardson.* Near Ramsgate, Kent; in the Isle of Thanet; and between Sandwich and Deal. *Hudson.* In Heslington fields near York, and about Knaresborough. *Rev. Archdeacon Peirson.* On Seamow crag, Winander mere. *Mr. D. Turner.*

Perennial. *July.*

Bulb roundish, pale. *Stem* 3 feet high, its lower half clothed with several flat, bluntish, rather succulent, solid *leaves,* not 1-4th of an inch broad; which are concave on the upper side; convex and somewhat keeled at the back; thickened and roughish at their edges; their sheaths very long, and ribbed. *Umbel* rather loose when in full flower, the stalks considerably elongated, and spreading in all directions, being forced asunder at the base by the numerous bulbs interspersed among them. *Bracteas* 2, unequal, each tapering to a not very acute point, and one or both considerably longer than the *umbel. Fl.* of a dull yellow, speckled with brown. *Petals* with a smooth brown keel. *Filaments* awl-shaped, connected by a membranous base; three of them earlier than the rest. *Germ.* elliptical, with 6 furrows. *Style* very short. *Stigma* blunt. From cultivated specimens. The *seeds* are seldom perfected, but the bulbs of the umbel propagate the plant abundantly.

This species is nearly related to the following, though differing in the flatter form of its leaves, and somewhat in size. I have doubts of their being essentially distinct.

** *Stem leafy. Leaves somewhat cylindrical.*

4. A. *oleraceum.* Streaked Field Garlick.

Umbel lax, bearing bulbs. Leaves semicylindrical, tubular, rough; channelled above; ribbed beneath. Bracteas pointed, longer than the umbel. Stamens simple, awl-shaped.

A. oleraceum. *Linn. Sp. Pl.* 429. *Willd. v.* 2. 74. *Fl. Br.* 358. *Engl. Bot. v.* 7. *t.* 488. *Hook. Scot.* 101.

A. n. 1223. *Hall. Hist. v.* 2. 107.

A. umbellâ bulbiferâ, vaginâ bicorni, foliis teretibus. *Hall. All.* 49. *n.* 23. *t.* 2. *f.* 2. *Opusc.* 387. *n.* 26. *t.* 1. *f.* 2.

A. sylvestre bicorne, flore ex herbaceo albicante, cum triplici in singulis petalis striâ atro-purpureâ. *Raii Syn.* 370.

A. montanum bicorne, flore exalbido. *Bauh. Pin.* 75.

A. montanum bicorne, floribus cinereis. *Rudb. Elys. v.* 2. 160. *f.* 18.

A. sive Moly montanum tertium. *Clus. Hist. v.* 1. 193. *f.* 194. *Ger. Em.* 188. *f.*

In corn-fields, and their borders.

At Black Notley, Essex. *Ray.* In several parts of Westmoreland, and near Bristol. *Huds.* At Fincham, Norfolk. *Rev. R. Forby.* Near York. *Sir Thomas Frankland, Bart.*

Perennial. *July.*

Bulb ovate or roundish. *Stem* 2 or 3 feet high, slender, leafy in the lower part. *Leaves* much narrower than the last, hollow, semicylindrical, minutely rough all over; ribbed at the back; channelled, or nearly flat, on the upper side. *Bracteas* dilated and concave at the base; each suddenly contracted into a long, slender, acute, nearly cylindrical point. *Umbel,* with its *bulbs* and *flowers,* very much like the foregoing. The whole plant has an unpleasant scent of garlick, and is a very troublesome weed, difficult of extirpation, though not of common occurrence.

5. A. *vineale.* Crow Garlick.

Umbel spherical, bearing bulbs. Leaves cylindrical, smooth. Three alternate stamens deeply three-cleft.

A. vineale. *Linn. Sp. Pl.* 428. *Willd. v.* 2. 73. *Fl. Br.* 359. *Engl. Bot. v.* 28. *t.* 1974. *Hook. Scot.* 101.

A. n. 1221. *Hall. Hist. v.* 2. 106.

A. staminibus alternè trifidis, foliis fistulosis, capite bulbifero sphærico, radice multiplici. *Hall. All.* 11. *n.* 4. *Opusc.* 338.

A. sylvestre. *Raii Syn.* 369. *Ger. Em.* 179. *f.*

A. sylvestre primum. *Fuchs. Hist.* 737. *f.*

A. sylvestre tenuifolium. *Lob. Ic.* 156. *f.*

A. campestre juncifolium capitatum purpurascens majus, et minus. *Bauh. Pin.* 74. *Rudb. Elys. v.* 2. 153. *f.* 11, bad; 12, better.

In dry pastures, corn-fields, and waste ground, among ruins, especially on a chalky or gravelly soil.

Perennial. *July.*

Bulb small, ovate, white. *Stem* slender, 2 feet high, leafy, round, striated. *Leaves* long and tapering, hollow, fading before the *flowers* expand. *Umbel* small, with many crowded, ovate, acute, greenish bulbs, generally viviparous before they fall, and more numerous than the *flower-stalks,* which are erect, purplish, swelled at the top. *Fl.* small, pale rose-coloured with green keels. *Stam.* longer than the *petals,* 3 of them with capillary, spreading, lateral segments, very conspicuous, and at once distinguishing this species from the two last. *Germen* somewhat pyramidal, obtuse, with 3 lateral protuberances. *Style* very short. *Caps.* mostly abortive.

*** *Stalk radical, naked.*

6. A. *ursinum.* Broad-leaved Garlick. Ramsons.

Stalk naked, semicylindrical. Leaves elliptic-lanceolate, stalked. Umbel level-topped. Stamens simple.

A. ursinum. *Linn. Sp. Pl.* 431. *Willd. v.* 2. 79. *Fl. Br.* 359. *Engl. Bot. v.* 2. *t.* 122. *Hook. Scot.* 101. *Fl. Dan. t.* 757. *Fuchs. Hist.* 739. *f. Matth. Valgr. v.* 1. 512. *f. Camer. Epit.* 330. *f. Ger. Em.* 179. *f. Dalech. Hist.* 1546. *f.* 2, 3.

A. n. 1228. *Hall. Hist. v.* 2. 110.

A. foliis radicalibus latissimis petiolatis, floribus umbellatis. *Hall. All.* 41. *n.* 18. *Opusc.* 379. *n.* 21.

A. sylvestre latifolium. *Bauh. Pin.* 74. *Raii Syn.* 370. *Rudb. Elys. v.* 2. 152. *f.* 8.

In moist woods, hedges, and meadows, frequent.

Perennial. *May, June.*

Bulb white, slender, oblong. *Stem* none. *Leaves* 1 or 2, a span long, erect, pointed, broad, smooth, entire, bright green, with a stout central rib, and many fine, parallel, lateral ones, connected by transverse reticulations. *Footstalks* semicylindrical, much shorter than the leaves, sheathing at the base. *Flower-stalk* solitary, semicylindrical, about as tall as the leaves, bearing a flattish *umbel* of many pure-white *flowers*, with a pair of ovate *bracteas*. *Petals* acute. *Stam.* awl-shaped, simple, slightly attached to the bottom of each petal. *Germen* turbinate, three-lobed. *Style* a little elongated.

Every part of the plant when trodden upon, or otherwise bruised, exhales the strong odour of its genus; and if cows feed upon it, ever so sparingly, their milk is rendered intolerably nauseous; so that even the pretty flowers are seen with disgust, by those who wish in vain to eradicate such a nuisance from their pastures. Pliny, who first has recorded the specific name, does not account for its application. The coarseness of its qualities, like the manners of some human beings, may, in both cases, justify the comparison.

7. A *Schœnoprasum.* Chive Garlick.

Stalk naked, round, the height of the foliage. Leaves cylindrical, somewhat tapering at the point. Stamens simple.

Allium Schœnoprasum. *Linn. Sp. Pl.* 432. *Willd. v.* 2. 81. *Fl. Br.* 360. *Engl. Bot. v.* 34. *t.* 2441. *Lightf.* 160. *Hook. Scot.* 101. *Fl. Dan. t.* 971.

A. n. 1226. *Hall. Hist. v.* 2. 108.

A. staminibus simplicibus, foliis radicalibus teretibus, scapi longitudine. *Hall. All.* 28. *n.* 12. *Opusc.* 361. *n.* 14.

Porrum sectivum juncifolium. *Bauh. Pin.* 72. *Rudb. Elys. v.* 2. 143. *f.* 3.

P. sectivum. *Fuchs. Hist.* 635. *f. Trag. Hist.* 743. *f.* 742. *Dalech. Hist.* 1542. *f.*

P. sectile. *Matth. Valgr. v.* 1. 502. *f. Camer. Epit.* 322. *f.*

Schœnoprason. *Ger. Em.* 176 *f. Lob. Ic.* 154. *f. Dod. Pempt.* 689. *f.*

In meadows and pastures, but rare.

By Fast castle, on the borders of Berwickshire, observed by Dr. Parsons of Oxford; also in Argylshire. *Lightfoot.* In Westmoreland. *Huds. With.*

Perennial. *June.*

Bulbs slender, pale, forming dense tufts. *Leaves* and *flower-stalks* about a span high, cylindrical, hollow, glaucous and smooth; the former sheathing at the base. *Umbel* dense, hemispherical, without bulbs. *Bracteas* 2, ovate, short. *Fl.* erect, of an elegant purplish rose-colour. *Petals* acute, nearly upright. *Stam.* awl-shaped, concealed within the flower. *Germ.* roundish, with a very short style.

188. FRITILLARIA. Fritillary.

Linn. Gen. 164. *Juss.* 48. *Fl. Br.* 360. *Tourn. t.* 201. *Lam. t.* 245. *Gærtn. t.* 17.

Nat. Ord. *Coronariæ.* Linn. 10. *Lilia.* Juss. 14. *N.* 189 the same.

Cal. none. *Cor.* inferior, bell-shaped, spreading at the base, of 6 elliptic-oblong, parallel *petals.* *Nectary* a cavity just above the base of each petal, at the inside. *Filam.* awl-shaped, attached to the bottom of each petal, close to the style, shorter than the corolla. *Anth.* oblong, quadrangular, attached by the back, erect. *Germ.* superior, oblong, obtuse, triangular. *Style* vertical, longer than the stamens, simple. *Stigmas* 3, oblong, spreading, downy on the upper side. *Caps.* oblong, obtuse, with 3 lobes, 3 cells, and 3 valves, connected by network, with central partitions. *Seeds* very numerous, flat, crowded one above another in 2 rows; their outer margin rounded.

Root a lobed or scaly bulb. *Stem* unbranched, leafy. *Leaves* linear-oblong, entire, smooth, sessile. *Fl.* one or more, terminal, pendulous. *Capsule* erect.

1. F. *Meleagris.* Common Fritillary. Chequered Daffodil. Snake's-head.

All the leaves alternate, linear-lanceolate, pointed. Stem single-flowered. Nectary linear. Points of the petals inflexed.

F. Meleagris. *Linn. Sp. Pl.* 436. *Willd. v.* 2. 91. *Fl. Br.* 360. *Engl. Bot. v.* 9. *t.* 622. *Curt. Lond. fasc.* 3. *t.* 20. *Fl. Dan. t.* 972. *Jacq. Austr. app. t.* 32. *Redout. Liliac. t.* 222. *Wikstroem in Stockh. Trans. for.* 1821. 355.

F. n. 1235. *Hall. Hist. v.* 2. 115.

F. præcox purpurea variegata. *Bauh. Pin.* 64. *Rudb. Elys. v.* 2. 113. *f.* 1.

F. variegata. *Ger. Em.* 149. *f.*
Meleagris. *Dod. Pempt.* 233. *f.* *Renealm. Spec.* 147. *t.* 146. *fig. with the root and capsule.*

In moist meadows and pastures, chiefly towards the southern parts of England.
In Maud fields near Rislip Common, Middlesex; Mr. Ashby. *Blackstone.* Between Mortlake and Kew, and near Enfield. *Hudson.* Near Laxfield, Suffolk. *Mr. Woodward.* At Little Stonham, in the same county, a troublesome weed. *Mrs. Cobbold.* Near Reading. *Mr. Murray.*
Perennial. *April.*
Bulbs small, depressed, roundish, aggregate, lobed. *Stem* a foot high, round, leafy chiefly in the upper part, quite simple, drooping at the top. *Leaves* alternate, rather distant, erect, channelled, pointed, somewhat glaucous. *Flower* terminal, pendulous, the size of a large walnut, inodorous, regularly chequered with pale and dark purple; sometimes white, but still chequered. The points of the *petals* are more or less turned inwards, distinguishing this species from some exotic ones that have been confounded with it. The *capsule* is obovate, abrupt, with 6 furrows, and quite erect.

189. TULIPA. Tulip.

Linn. Gen. 165. *Juss.* 48. *Fl. Br.* 361. *Tourn. t.* 199, 200. *Lam. t.* 244. *Gærtn. t.* 17.

Nat. Ord. see *n.* 188.

Cal. none. *Cor.* inferior, bell-shaped, of 6 ovate-oblong, concave, erect petals. *Nectaries* none. *Filam.* 6, stout, oblong, compressed, upright, taper-pointed, shorter than the *pistil.* *Anth.* oblong, quadrangular, terminal, erect, versatile. *Germ.* superior, large, oblong, with 3 more or less blunt angles. *Style* none. *Stigma* either triangular or three-lobed, permanent. *Caps.* triangular, with 3 intermediate furrows, 3 cells and 3 valves, which are fringed at the edges, and have central partitions. *Seeds* very numerous, flat, obovate, crowded one above another, in 2 rows, many of them usually abortive.
Bulb coated, ovate. *Stem* simple, leafy at the bottom only. *Leaves* lanceolate, or ovate-oblong, entire, tapering at each end, smooth or downy. *Fl.* terminal, yellow or reddish, mostly erect.

1. T. *sylvestris.* Wild Tulip.

Flower solitary, a little drooping. Leaves lanceolate. Stigma triangular, abrupt. Stamens hairy at the base.

T. sylvestris. *Linn. Sp. Pl.* 438. *Fl. Suec. ed.* 2. 106. *Willd. v.* 2. 96. *Fl. Br.* 361. *Engl. Bot. v.* 1. *t.* 63. *Hook. Lond. t.* 19. *Scot.* 101. *Gawl. in Curt. Mag. v.* 30. *t.* 1202. *Fl. Dan. t.* 375. *Redout. Liliac. t.* 165.

T. n. 1236. *Hall. Hist. v.* 2. 115.

T. minor lutea gallica. *Bauh. Pin.* 63. *Rudb. Elys. v.* 2. 110. *f.* 5.

T. minor lutea narbonensis. *Magnol. Monsp.* 272.

T. narbonensis. *Clus. Hist. v.* 1. 151. *f.*

T. bononiensis. *Ger. Em.* 138. *f.*

Narbonensis Lilio-Narcissus luteus montanus. *Lob. Ic.* 124. *f.*

In chalk-pits, but not common.

In old chalk-pits at Carrow Abbey, near Norwich. *Mr. Rose.* Near Bury. *Sir T. G. Cullum, Bart.* At Whipsnade, Hertfordshire. *Rev. D. Jenks.* At Melbury, near Shaftsbury; and on Muswell hill, Middlesex; also in a field near Hamilton, Scotland, and near Brechin. *Hooker.*

Perennial. *April.*

Bulb ovate, tumid on one side, brown. *Stem* perfectly simple, nearly upright, about a foot high, round, smooth; leafy about the middle; taper at the base. *Leaves* 2 or 3, a span long, alternate, lanceolate, slightly keeled, smooth, rather glaucous, tapering at each end, clasping the stem. *Fl.* somewhat drooping, sweet-scented, bright yellow; externally greenish. *Filam.* yellow, beset with short dense hairs at the bottom. *Anth.* yellow, as long as the filaments, with yellow *pollen*. *Stigma* acutely triangular, abrupt; not dilated, nor downy, like the Garden Tulip.

Linnæus and Haller thought this plant had escaped from gardens in Sweden and Switzerland; and such has been the opinion of many botanists in England. It is however perfectly wild at present, and extremely abundant in many old chalk-pits, though the bulbs run so far into the ground that they rarely flower. Nothing can be more distinct as a species. Mr. Ker, late Gawler, observes that the bulbs send out lateral shoots, of a considerable length, forming new bulbs at the extremity. See *Hook. Lond.*

190. ORNITHOGALUM. Star of Bethlehem.

Linn. Gen. 166. *Juss.* 53. *Fl. Br.* 362. *Tourn. t.* 203. *Lam. t.* 242. *Gærtn. t.* 17.

Nat. Ord. *Coronariæ.* Linn. 10. *Asphodeli.* Juss. 16. Four following genera the same.

Cal. none. *Pet.* 6, inferior, lanceolate, erect in their lower half, then spreading, somewhat thickened at the keel, permanent, fading. *Filam.* erect, flattish, attached to the petals, 3 of them at least broadest at the base. *Anth.* ter-

minal, versatile, shortened after the pollen is shed. *Germ.* superior, angular, with intermediate furrows. *Style* awl-shaped, erect, permanent. *Stigma* obtuse. *Caps.* roundish, with 3 prominent angles, and 3 intermediate furrows, 3 cells, and 3 valves with central partitions. *Seeds* several, roundish.

Bulb coated, roundish. *Leaves* linear, mostly radical. *Inflorescence* various. *Petals* white or yellow, never blue; green at the keel. *Flowers* without scent.

1. O. *luteum.* Yellow Star of Bethlehem.

Stem angular, with one leaf at the bottom, and one or two at the top. Flower-stalks umbellate, simple, smooth.

O. luteum. *Linn. Sp. Pl.* 439. *Willd. v.* 2. 113. *Fl. Br.* 362. *Engl. Bot. v.* 1. *t.* 21. *Hook. Scot.* 102. *Fl. Dan. t.* 378. *Bauh. Pin.* 71. *Raii Syn.* 372. *Lob. Ic.* 149. *f. Dalech. Hist.* 1583. *f. Rudb. Elys. v.* 2. 139. *f.* 3.

O. pratense. *Persoon in Ust. Annal. fasc.* 11. 8. *t.* 2. *f.* 1.

O. luteum, sive Cepe agraria. *Ger. Em.* 165. *f.*

O. πυρροχιτων. *Renealm. Spec.* 91. *t.* 90.

Phalangium n. 1213. *Hall. Hist. v.* 2. 102.

Bulbus agrestis. *Trag. Hist.* 740. *f.* 737.

B. sylvestris. *Fuchs. Hist.* 168. *f.* 169. *Dod. Pempt.* 222. *f. Dalech. Hist.* 1502. *f.*

In groves and pastures, rare.

In woods about Oxford. *Sir Joseph Banks, Bart.* In the northern part of Yorkshire. *Ray.* Westmoreland. *Richardson.* Near Derby. *Mr. Whateley, and Mr. Haden.* At Shipmeadow, near Bungay. *Mr. J. Ashby.*

Perennial. *April.*

Bulb small. *Stem* solitary, from 4 to 6 inches high, unequally angular, naked except at the summit, smooth. *Radical leaf* linear-lanceolate, pointed, ribbed, keeled, upright, taller than the stem, very rarely accompanied by another much more slender one. *Stem-leaves* usually 2, sometimes more, just under the umbel, unequal, similar to the radical leaf, but much shorter; one of them occasionally very minute; their edges more or less fringed with soft, loose hairs. *Flower-stalks* 3 or 4, sometimes more, forming a simple, rarely a double, umbel, unequal, angular, smooth, erect, all shorter than the largest of the adjoining leaves, single-flowered. *Fl.* erect, yellow; tipped with green at the inner side, and almost entirely green at the back. *Stam.* and *Pist.* yellow. *Style* triangular. Several foreign species have been confounded with this, particularly *O. minimum* of Linnæus, *O. spathaceum* of Willdenow, and *O. arvense* of Persoon, now figured in *Fl. Græc. t.* 332, all very distinct.

2. O. *pyrenaicum.* Tall Star of Bethlehem.

Cluster very long. Filaments all dilated. Flower-stalks equal, spreading; growing erect, and close-pressed, as the fruit ripens.

O. pyrenaicum. *Linn. Sp. Pl.* 440. *Willd. v.* 2. 116. *Fl. Br.* 363. *Engl. Bot. v.* 7. *t.* 499. *Abbot* 76. *Jacq. Austr. t.* 103.
O. angustifolium majus, floribus ex albo virescentibus. *Bauh. Pin.* 70. *Raii Syn.* 372. *Rudb. Elys. v.* 2. 134. *f.* 3.
O. majus primum. *Clus. Hist. v.* 1. 187. *f.*
O. pyrenæum. *Clus. Append.* 2. *ad cap.* 33. *Cur. Post.* 21.
O. alterum. *Camer. Epit.* 315 ; *lowermost fig.*
Asphodelus bulbosus. *Dod. Pempt.* 209. *f.* *Ger. Em.* 97. *Dalech. Hist.* 1589. *f.* *Bauh. Hist. v.* 2. 627. *f.*
Phalangium n. 1210. *Hall. Hist. v.* 2. 101 ; excluding the reference to Reneaume.
Hyacintho-Asphodelus. *Lob. Ic.* 93. *f.*

In pastures, rare.
In Sussex and Somersetshire. *Ray.* Between Eaton-Socon and Thurleigh, Bedfordshire. *Abbot.* In Keyson Park wood, in that county. *Rev. T. O. Marsh.*
Perennial. *June, July.*
Bulb ovate, whitish. *Leaves* several, all radical, long, spreading, linear, roundly channelled, acute, smooth, their tips soon withering. *Stalk* central, 2 feet or more in height, erect, round, smooth and polished, terminating in a very long upright *cluster,* of numerous greenish, spreading *flowers,* not remarkable for beauty. *Partial stalks* simple, hardly an inch long, spreading while in flower only, then erect. *Bracteas* awl-shaped, solitary at the base of each stalk. *Stam.* all equally broad and short, each with a slender point. *Anth.* oblong, incumbent. *Style* short. *Caps.* ovate, with 3 furrows, erect, enveloped in the contracted, permanent, faded *petals.*

3. O. *umbellatum.* Common Star of Bethlehem.

Flowers corymbose; their partial stalks overtopping the main one. Filaments dilated, tapering, entire.

O. umbellatum. *Linn. Sp. Pl.* 441. *Willd. v.* 2. 116. *Fl. Br.* 364. *Engl. Bot. v.* 2. *t.* 130. *Hook. Lond. t.* 45. *Scot.* 102. *Jacq. Austr. t.* 343.
O. n. 1215. *Hall. Hist. v.* 2. 103.
O. vulgare et verius, majus et minus. *Bauh. Hist. v.* 2. 630. *Raii Syn.* 372.
O. umbellatum medium angustifolium. *Bauh. Pin.* 70. *Rudb. Elys. v.* 2. 131. *f.* 4.
Ornithogalum. *Ger. Em.* 165. *f.* *Lob. Ic.* 148. *f.*

O. ἡλιοχαρμον. *Renealm. Spec.* 88. *t.* 87.
Bulbus leucanthemus minor. *Dod. Pempt.* 221. *f.*

In meadows, pastures and groves, in various parts of England.
Perennial. *April, May.*

Bulbs ovate, plentifully increasing by offsets. *Leaves* radical, linear, roundly channelled, pliant, smooth. *Stalk* central, round, polished, taller than the leaves, bearing a *corymb* of about 6 or 8 upright *flowers*, all nearly on a level, the lowermost *stalks* being gradually longest. *Bracteas* solitary at the base of each partial stalk, lanceolate, pointed, soon withering and turning brown, though permanent. *Petals* of a brilliant enamelled white on the upper side; green underneath; whence the name *Ornithogalum*, bird's milk, alluding to the general appearance of the dung of birds, evidently, I think, originated; though Reneaume disdained, and Tournefort failed, to explain it. Linnæus first gave the above etymology, in his *Prælectiones*, published by Giseke, p. 287. He has also shown that the roots of this plant, eaten to the present day in Palæstine, are the "*Dove's Dung*" mentioned in the 2nd book of Kings, *chap.* 6. *v.* 25. See *Engl. Bot.*

* 4. O *nutans*. Drooping Star of Bethlehem.

Flowers pendulous, unilateral. Filaments dilated, cloven, converging; three of them longer, their lobes nearly equal to the anther.

O. nutans. *Linn. Sp. Pl.* 441. *Willd. v.* 2. 125. *Comp.* 53. *Engl. Bot. v.* 28. *t.* 1997. *Hook. Lond. t.* 44. *Curt. Mag. t.* 269. *Fl. Dan. t.* 912. *Jacq. Austr. t.* 301. *Redout. Liliac. t.* 253.
O. n. 1216. *Hall. Hist. v.* 2. 103.
O. exoticum, magno flore, minore innato. *Bauh. Pin.* 70. *Rudb. Elys. v.* 2. 137. *f.* 12.
O. neapolitanum. *Clus. Exot. app.* 2. 8. *f.* 9. *Sweert. Floril. t.* 57. *f.* 2. *Park. Parad.* 138. *t.* 137. *f.* 8. *Ger. Em.* 168. *f.*

In fields and orchards, probably naturalized.
In Eaton-ford field, Bedfordshire; and near Bury. *Sir T. G. Cullum, Bart.* In several parts of Suffolk. *Hooker.* In meadows near Derby and Nottingham. *Mr. Haden.*
Perennial. *April, May.*

Bulb ovate, commonly deep in the ground. *Leaves* few, radical, linear, 12 to 18 inches long, flaccid, bright green, somewhat glaucous, roundly channelled. *Stalk* central, a foot high, erect, round, smooth, glaucous, bearing a simple, nearly upright, *cluster*, of several large *flowers*, all pendulous toward one side. *Bracteas* lanceolate, pointed, concave, solitary under each partial stalk. *Petals* elliptic-oblong, spreading, of a silvery glaucous white; greener at the back; finally closing over the increasing germen. *Stam.* broad, standing close together in the form of a bell, and constituting, according to Bauhin's idea,

an inner flower, in the centre of the larger one. *Style* angular. *Caps.* elliptical, with 3 deep furrows. *Seeds* rugged, black.

An elegant spring flower, common in country gardens, from whence it may have escaped into the fields. Yet the plant may as well be a native of England, as of Denmark, Austria, or other parts of Europe, where it is found in similar situations.

191. SCILLA. Squill.

Linn. Gen. 166. *Juss.* 53. *Fl. Br.* 364. *Lam. t.* 238.
Lilio-hyacinthus. *Tourn. t.* 196.

Nat. Ord. see *n.* 190.

Cal. none. *Pet.* 6, inferior, ovate-oblong, more or less spreading, withering, or deciduous. *Filam.* all thread-shaped, simple, half the length of the petals, to whose bases they are attached. *Anth.* oblong, incumbent. *Germ.* superior, roundish. *Style* simple, shorter than the stamens, deciduous. *Stigma* simple. *Caps.* roundish, with 3 furrows, 3 cells, and 3 valves with central partitions. *Seeds* several, roundish.

Bulb mostly coated, roundish. *Leaves* radical, linear. *Cluster* or *corymb* stalked, of several flowers. *Petals* blue, purplish, or white, never yellow. *Flowers* in some instances sweet-scented.

1. S. *verna*. Vernal Squill.

Bulb coated. Corymb hemispherical, of few flowers. Bracteas lanceolate, obtuse. Leaves linear, channelled.

S. verna. *Huds.* 142. *Willd. Sp. Pl. v.* 2. 129. *Fl. Br.* 364. *Engl. Bot. v.* 1. *t.* 23. *Dicks. H. Sicc. fasc.* 10. 8. *Hook. Scot.* 102.
S. bifolia. *Lightf.* 121. *Fl. Dan. t.* 568.
Hyacinthus n. 1. *Raii Syn.* 372; all the synonyms wrong.
H. stellaris vernus pumilus. *Dill. in Raii Syn. Indic. Pl. Dub.*
Ornithogalum hispanicum minus. *Clus. Hist. v.* 1. 188. *f.* *Ger. Em.* 166. *f.*
O. umbellatum, flosculis ex albo subcæruleis. *Bauh. Pin.* 70. *Rudb. Elys. v.* 2. 132. *f.* 6; too large.

On maritime rocks and cliffs.

In the Isle of Man, and in Anglesea, as well as on the coasts of Ireland, Wales and Cornwall. *Dill. and Huds.* In Iona and Staffa abundantly. *Lightf.* On the cliffs of Caithness, and Sutherland. *Dr. Hooker and Mr. Borrer.* In the Orkneys abundantly, and in Shetland. *Mr. P. Neill.*

Perennial. *April.*

Bulb whitish, small, ovate. *Leaves* numerous, deep green, linear,

channelled, narrow, acute; tapering at the base. *Stalk* central, round, smooth, nearly upright, often a little wavy or declining. *Corymb* hemispherical, short, and dense, usually of 5 or 6 flowers in the wild plant, sometimes with not more than 3, but in a garden of 7 or 8. *Bracteas* membranous, with a tapering though blunt point, permanent, as long as the partial stalks. *Petals* ovate, keeled, of a full, rather deep, blue. *Filam.* round, not dilated. *Anth.* peltate, blue. *Style* short, with a blunt *stigma*. *Caps.* roundish, a little depressed, with 3 prominent angles, and as many deep intermediate furrows, and pointed with the permanent base of the *style*.

2. S. *bifolia*. Two-leaved Squill.

Bulb coated. Cluster slightly corymbose, without bracteas. Flowers nearly erect. Leaves lanceolate, generally two.

S. bifolia. *Linn. Sp. Pl.* 443. *Willd. v.* 2. 128. *Fl. Br.* 365. *Engl. Bot. v.* 1. *t.* 24. *Jacq. Austr. t.* 117. *Redout. Liliac. t.* 254.

Phalangium n. 1211. *Hall. Hist. v.* 2. 101.

Hyacinthus stellaris bifolius germanicus. *Bauh. Pin.* 45. *Rudb. Elys. v.* 2. 33. *f.* 1; also *f.* 2 *and* 3.

H. stellaris mas minor. *Fuchs. Hist.* 837. *f.* and *albicans seu fœminea.* 838. *f.*

H. stellatus bifolius et trifolius. *Bauh. Hist. v.* 2. 579. *f.*

H. stellatus Fuchsii. *Ger. Em.* 106. *f.*

H. Fuchsii. *Dod. Pempt.* 219. *f.*

Narcissus martius. *Brunf. Herb. v.* 1. 184. *f.*

N. cærnleus. *Trag. Hist.* 756. *f.*

Star Hyacinth. *Pet. H. Brit. t.* 67. *f.* 5.

In groves, in the west of England, but very rare.

Received from the west of England, by Mr. Sims, druggist, of Norwich. It is preserved also in Buddle's herbarium, in the British Museum.

Perennial. *March, April.*

Bulb ovate. *Leaves* two, upright, lanceolate, bluntish, concave, slightly keeled, sometimes accompanied by a third, which is smaller. *Stalk* central, a little taller than the leaves, round. *Cluster* inclining, somewhat corymbose. *Flowers* from 4 to 10, erect, of a lighter blue than the last, without scent; the lower ones generally on the longest stalks. *Bracteas* none. *Petals* ovate, bluntish, widely spreading. *Anth.* brownish. The coated bulb of these two species distinguishes them from *S. Lilio-hyacinthus*, whose bulb is said to be scaly, like that of a Lily.

3. S. *autumnalis*. Autumnal Squill.

Leaves linear, numerous. Cluster somewhat corymbose. Flower-stalks ascending, the length of the flowers, without bracteas.

S. autumnalis. *Linn. Sp. Pl.* 443. *Willd. v.* 3. 130. *Fl. Br.* 366. *Engl. Bot. v.* 2. *t.* 78. *Curt. Lond. fasc.* 6. *t.* 25. *Cavan. Ic. v.* 3. 38. *t.* 274. *f.* 2. *Redout. Liliac. t.* 317.

Hyacinthus stellaris autumnalis minor. *Bauh. Pin.* 47. *Rudb. Elys. v.* 2. 36. *f.* 15.

H. autumnalis minor. *Clus. Hist. v.* 1. 185. *f. Raii Syn.* 373. *Dod. Pempt.* 219. *f. Ger. Em.* 110. *f. Magn. Monsp.* 134.

H. autumnalis minimus. *Bauh. Hist. v.* 2. 574. *f.*

H. autumnalis. *Lob. Ic.* 102. *f. Dalech. Hist.* 1513.

H. minimus maritimus. *Bauh. Pin.* 47. *Prodr.* 26. *Rudb. Elys. v.* 2. 36. *f.* 17. Justly considered by Magnol as the same species.

In dry pastures, or on rocks, among short grass.

On St. Vincent's rocks, Bristol, and at the Lizard Point, plentifully. *Ray.* On Black-heath, Moulsey-hurst, Kew-green, and several similar places near London. *Plukenet, Merret, Huds. Curt.* Though now almost eradicated in that neighbourhood.

Perennial. *September.*

Bulb globular, with a brownish coat. *Leaves* numerous, spreading, for the most part quite linear, channelled, deep green, smooth. *Stalk* 1, rarely 2, about 3 inches high, round, terminating in an oblong cluster of several little, rose-coloured, scentless *flowers*, whose *stamens* are of a deeper red, and the *pistil* light blue. The *partial stalks* become curved upwards, or inwards, as the fruit ripens, and are destitute of *bracteas*.

H. autumnalis major of the old authors, generally exhibited along with this, has 2 *flower-stalks*, but is not worth noticing even as fruit a variety.

4. S. *nutans*. Hare-bell Squill. Wild Hyacinth.

Leaves linear. Cluster drooping. Flowers pendulous, cylindrical-bell-shaped; the points of their petals reflexed. Bracteas in pairs.

S. nutans. *Fl. Br.* 366. *Engl. Bot. v.* 6. *t.* 377.

S. non scripta. *Redout. Liliac. t.* 224.

S. festalis. *Salisb. Prodr.* 242.

Hyacinthus non-scriptus. *Linn. Sp. Pl.* 453. *Willd. v.* 2. 166. *Huds.* 141. *Curt. Lond. fasc.* 2. *t.* 18. *Hook. Scot.* 102. *Dod. Pempt.* 216. *f. Bull. Fr. t.* 353.

H. n. 1248. *Hall. Hist. v.* 2. 121.

H. anglicus. *Raii Syn.* 373. *Ger. Em.* 111. *f. Lob. Ic.* 103. *f.*

H. hispanicus. *Clus. Hist. v.* 1. 177. *f.*

H. oblongo flore, cæruleus major. *Bauh. Pin.* 43. *Rudb. Elys. v.* 2. 26. *f.* 1.

In thickets, groves, bushy fields, and under dry hedges, abundantly.

Perennial. *May.*

Bulb globular, white, coated, mucilaginous, but acrid. *Leaves* nu-

merous, of a shining, pale, slightly glaucous, green, linear, pointed, channelled, keeled, flaccid; upright in their lower half, then reflexed and drooping. *Stalk* taller than the foliage, round, central. *Cluster* partly upright, drooping in the upper half, of many pendulous, blue, sweet-scented *flowers*, each nearly an inch long. *Bracteas* lanceolate, tapering, in pairs, unequal, longer than the partial stalks. *Cor.* of a tubular bell-shape. *Stam.* united with the *petals* half way up. *Germ.* ovate, angular, without any honey-bearing pores. *Style* about the same length, deciduous, except the very base. *Stigma* abrupt. The most decisive character of *Hyacinthus*, a monopetalous *corolla*, to say nothing of the nectariferous pores, is wanting in this plant; and whoever attends to natural genera, without which there can be no idea of natural orders, must perceive its agreement with every character and indication of *Scilla*. So closely is it allied to *S. campanulata* of Banks and Solander, *Willd. v.* 2. 128, that few perfectly distinct species of any natural genus can better exemplify such a genus. Hence it is no less clearly associated with other *Scillæ*. Jussieu has proposed removing it from *Hyacinthus*, though he, from theory, considers the *corolla* as merely divided into 6 deep segments. The slightest examination will prove it of 6 petals, as distinct as in almost any flower whatever.

192. HYACINTHUS. Hyacinth.

Linn. Gen. 170. *Juss.* 52. *Tourn. t.* 180. *Lam. t.* 238.
Muscari. *Tourn. t.* 180.

Nat. Ord. see *n.* 190.

Cal. none. *Cor.* inferior, of 1 petal, deciduous; tube somewhat bell-shaped, or globose; limb in 6 deep, regular, reflexed segments, shorter than the tube. "*Nectary* 3 pores upon the germen." *Linn. Juss.* *Filam.* awl-shaped, equal, proceeding from the tube, and inclosed within it. *Anth.* oblong, converging. *Germ.* superior, roundish, with 3 angles, and 3 furrows. *Style* simple, erect, shorter than the tube, deciduous. *Stigma* obtuse. *Caps.* roundish, with 3 rounded angles, or 3 lobes, 3 cells, and 3 valves with central partitions. *Seeds* few, globose.

Bulb coated, roundish. *Leaves* radical, linear. *Cluster* stalked, many-flowered. *Petals* blue; varying by culture to white, red, or even yellow. *Fl.* in some sweet-scented, in some fetid, or nauseous. The monopetalous *corolla* distinguishes this genus from the last. Its species are among themselves more discordant than those of *Scilla*.

1. H. *racemosus.* Starch Hyacinth.

Flowers ovate, with six furrows; the upper ones sessile and abortive. Leaves linear, channelled, flaccid.

H. racemosus. *Linn. Sp. Pl.* 455. *Willd. v.* 2. 170. *Comp.* 54. *Engl. Bot. v.* 27. *t.* 1931. *Curt. Mag. t.* 122. *Jacq. Austr. t.* 187. *Dod. Pempt.* 217. *f.*
H. n. 1245. *Hall. Hist. v.* 2. 120.
H. racemosus cæruleus minor juncifolius. *Bauh. Pin.* 43. *Rudb. Elys. v.* 2. 25. *f.* 7.
H. botryoides cæruleus. *Ger. Em.* 118. *f.*
H. botryoides vulgaris. *Lob. Ic.* 107. *f.*
H. botryodes primus. *Clus. Hist. v.* 1. 181. *f.*
H. comosus minor. *Dalech. Hist.* 1511. *f.*

In grassy fields, or among ruins.
On a sandy soil at Cavenham, Suffolk. *Rev. G. R. Leathes.* Near Newbery, Berks. *Dr. Lamb.* On the earthy ledge of the old city wall, on the north side of Norwich, plentiful.
Perennial. *May.*
Bulb ovate, brown externally. *Leaves* many, deep green, flaccid, and loosely spreading, linear, very narrow, about a span long; channelled above; semicylindrical at the back. *Stalk* solitary, erect, round, much shorter than the leaves, often brownish. *Cluster* ovate, dense, of numerous, little, drooping, dark blue *flowers*, whose *tube* is oval, their *limb* minute and whitish. Several of the uppermost are pale, diminutive, and imperfect. *Caps.* with 3 rounded lobes. *Seeds* 2 in each cell. The *flowers* smell like wet starch, being equally disagreeable and oppressive to most people; causing head-ache and nausea to many.

193. ANTHERICUM. Spiderwort.

Linn. Gen. 167. *Fl. Br.* 367. *Gærtn. t.* 16.
Phalangium. *Juss.* 52. *Tourn. t.* 193. *Lam. t.* 240.

Nat. Ord. see *n.* 190.

Cal. none. *Pet.* 6, inferior, elliptic-oblong, spreading. *Filam.* thread-shaped, either naked or bearded, attached to the petals. *Anth.* roundish, versatile. *Germ.* inferior, roundish, with 3 angles. *Style* thread-shaped, or partly triangular, erect, permanent. *Stigma* obtuse. *Caps.* roundish, with 3 angles, 3 cells, and 3 valves, with central partitions; abrupt, or concave, at the summit, and crowned with the style. *Seeds* few, angular.
Root tuberous, or fibrous. *Stem* simple, or branched. *Leaves* simple, narrow, often radical only. *Inflorescence* various, as well as the colour of the *flowers*. *Phalangium* of some authors, not of Haller, distinguished by its

naked filaments, may be a good genus, but the name, long since appropriated to a genus of insects, is, of course, inadmissible.

1. A. *serotinum.* Mountain Spiderwort.

Leaves semicylindrical; those on the stem dilated at their base. Flower mostly solitary.

A. serotinum. *Linn. Sp. Pl.* 444. *Willd. v.* 2. 134. *Fl. Br.* 367. *Engl. Bot. v.* 12. *t.* 793. *Jacq. Austr. app. t.* 38.

Phalangium n. 1209. *Hall. Hist. v.* 2. 101.

Bulbosa alpina juncifolia, pericarpio unico erecto in summo caulículo dodrantali. *Raii Syn. ed.* 2. 233.

Bulbocodium alpinum, pumilum, juncifolium, flore unico, intùs albo, extùs squalidè rubente. *Dill. in Raii Syn.* 374. *t.* 17. *f.* 1.

B. serotinum. *Linn. Sp. Pl. ed.* 1. 294.

Pseudo-narcissus, gramineo folio. *Bauh. Pin.* 51. *Prodr.* 27. *Rudb. Elys. v.* 2. 64. *f.* 9.

Narcissus autumnalis minor. *Bauh. Hist. v.* 2. 663, *left-hand fig. only.*

On the loftiest Welsh mountains.

Upon Snowdon, and other mountains in Wales. *Ray.* On Crib y Ddescil, near Llanberris, rare; on rocks above Cwm Idwal, Caernarvonshire, in abundance. *Mr. Griffith.*

Perennial. *June.*

Root somewhat tuberous, rather than bulbous, with many long slender fibres. *Herb* smooth, slender. *Stem* solitary, 3 or 4 inches high, round, generally simple and single-flowered; not unfrequently branched and bearing several flowers; according to Mr. Griffith, the only British botanist perhaps who has had an opportunity of studying this curious plant in its natural situation. *Radical-leaves* few, erect, taller than the stem, semicylindrical, solid, very narrow; those on the stem much shorter, lanceolate, sheathing, scattered, more like *bracteas*. *Fl.* erect, white, veined externally with dull red. *Pet.* scarcely half an inch long, tapering at the base, withering, permanent as well as the *stamens*. *Caps.* the size of a pea, membranous. *Seeds* angular, wrinkled, of a bright chesnut colour; nor can I perceive the black brittle *skin*, proper, as Mr. Brown observes, to his *Asphodeleæ*.

The specific name, which is incorrect for a plant blossoming in June, seems to have originated in a confusion of synonyms between this *Anthericum* and the *Narcissus serotinus* of *Clus. Hist. v.* 1. 162. *f.* copied in John Bauhin's *Historia*, and there placed with our *Anthericum*. The plant of Clusius deserves inquiry; for it is not *Narcissus serotinus* of Linnæus, though quoted as such. Haller and Jacquin, as well as Linnæus, err greatly in their application of this synonym.

194. NARTHECIUM. Bog-asphodel.

Moehring in Eph. Nat. Cur. v. 6. 389. *t.* 5. *f.* 1. *Huds.* 145. *Fl. Br.* 368. *Pursh* 214.

Nat. Ord. see *n.* 190.

Cal. none. *Petals* 6, inferior, linear-lanceolate, spreading, ribbed, membranous at the edges, permanent; 3 of them interior; all finally hardened, and converging round the capsule. *Filam.* opposite to each petal, and not so long, erect, awl-shaped, woolly all over, except a small space at the top and bottom, permanent. *Anth.* terminal, oblong, converging, smooth; finally twisted. *Germ.* superior, oblong, triangular, tapering upwards into a short conical *style*. *Stigma* simple. *Caps.* oblong, tapering, pointed, bluntly triangular, with 3 intermediate furrows, 3 acute rigid valves, and 3 cells, bearing central partitions, which are joined at their base to the short central column. *Seeds* numerous, erect, small, oblong, smooth, each invested with a pale, membranous *tunic*, tapering, and greatly elongated, at each end, equalling the whole capsule in length.

Root creeping, perennial. *Leaves* sword-shaped, entire. *Stem* simple, leafy. *Cluster* terminal, erect, many-flowered. *Bracteas* 2 to each partial stalk. *Fl.* yellow.

1. N. *ossifragum*. Lancashire Bog-asphodel.

Cluster uninterrupted. One bractea at the base, the other above the middle, of each partial stalk.

N. ossifragum. *Huds.* 145. *With.* 339. *Fl. Br.* 368. *Engl. Bot. v.* 8. *t.* 535. *Hook. Lond. t.* 139. *Scot.* 103. *Wahlenb. Lapp.* 78.
Anthericum ossifragum. *Linn. Sp. Pl.* 446. *Fl. Lapp. ed.* 2. 105. *Willd. v.* 2. 147. *Fl. Dan. t.* 42.
Asphodelus Lancastriæ. *Ger. Em.* 95. *f.*
A. luteus palustris. *Dod. Pempt.* 208. *f.*
A. minimus luteus acorifolius palustris. *Lob. Ic.* 92. *f.*
Pseudoasphodelus palustris anglicus. *Bauh. Pin.* 29.
Ps. palustris. *Bauh. Theatr.* 551. *f.*
Phalangium anglicum palustre, iridis folio. *Raii Syn.* 375.

In black turfy bogs.
Perennial. *July, August.*
Root tuberous and creeping. *Herb* smooth, rather firm and rigid. *Stem* ascending, roundish, leafy, 6 or 8 inches high, not quite straight. *Leaves* partly in radical tufts, 2-ranked, sword-shaped, ribbed, obliquely pointed, half the height of the stem; partly

on the stem, much smaller, scattered, sheathing, diminishing almost to bracteas. *Cluster* 1½ or 2 inches long, rather close and dense. *Flower-stalks* alternate, simple, angular, each having a lanceolate *bractea*, about its own length, at the bottom, and a smaller one more than half way up, by the situation of which last Mr. Ker has clearly distinguished this from the only known species besides, his *N. americanum, Curt. Mag. t.* 1505, *Pursh* 227, the *flowers* of which are paler, the woolliness of its *stamens* much shorter, and the *anthers* yellow not red. The *cluster* moreover is generally interrupted, or divided, below the middle. The *flowers* in our British species are bright yellow, spreading widely, with scarlet *anthers;* the back or keel of each *petal* green. *Capsule* tawny, half covered by the converging petals. *Seeds* brown, with a white, chaffy tunic.

Much has formerly been written about the power of this herb to soften the bones of cattle feeding upon it, and it has been supposed to cause the rot in sheep. Linnæus in his *Fl. Lapp.* combats both these opinions.

195. ASPARAGUS. Asparagus.

Linn. Gen. 168. *Juss.* 41. *Br. Prodr.* 281. *Fl. Br.* 369. *Tourn. t.* 154. *Lam. t.* 249. *Gærtn. t.* 16.

Nat. Ord. *Sarmentaceæ.* Linn. 11. *Asparagi.* Juss. 12. *Asphodeleæ.* Br. Prodr. 274. *N.* 196 the same.

Cal. none. *Cor.* inferior, in 6 deep, equal, oblong segments, cohering at their lower part, permanent. *Filam.* awl-shaped, smooth, attached to the lower part of each segment, and much shorter than the corolla. *Anth.* oblong, peltate, erect. *Germ.* globular. *Style* short, with 3 furrows. *Stigma* in 3 spreading lobes, deciduous. *Berry* subtended by the withered corolla, globular, of 3 cells, 1 or 2 of which are often abortive. *Seeds* 1 or 2 in each cell, externally globose, with a horny *albumen*, and a transverse *embryo*, far out of the centre.

Herbaceous or shrubby, branched, often prickly. *Leaves* linear, narrow, tufted, very abundant. *Fl.* lateral, stalked, drooping, of a greenish white. *Berries* red or black, frequently perfecting but one *seed.*

1. A. *officinalis.* Common Asparagus, or Sperage.

Stem herbaceous, round, erect, without prickles. Leaves bristle-shaped, flexible. Stipulas mostly solitary.

A. officinalis. *Linn. Sp. Pl.* 448. *Willd. v.* 2. 150. *Fl. Br.* 369. *Engl. Bot. v.* 5. *t.* 339. *Hook. Scot.* 103. *Fl. Dan. t.* 805. *Ehrh. Pl. Off.* 143.

A. n. 1239. *Hall. Hist. v.* 2. 117.
Asparagus. *Raii Syn.* 267. *Matth. Valgr. v.* 1. 433. *f. Camer. Epit.* 259. *f. Fuchs. Hist.* 59. *t.* 58.
A. sativus. *Ger. Em.* 1110. *f. Mill. Ic.* 37. *t.* 55. *f.* 1.
A. marinus. *Clus. Hist. v.* 2. 179. *f.*
β. A. maritimus, crassiore folio. *Bauh. Pin.* 490. *Dill. in Raii Syn.* 267; excluding the reference to Clusius.

On the sea coast, in sandy or stony places.
Near Weymouth. *Mr. Lambert.* In several parts of the west and south coasts of England. Rare in Scotland, according to Dr. Hooker.
β. Near Llanfaelog, Anglesea. *Mr. Llwyd, and Rev. H. Davies.*
Root somewhat creeping, with very long, stout, fleshy fibres; the crown densely scaly. *Stems* annual, erect, round, much branched, leafy, about a foot high; in the cultivated state 5 times as tall; in β quite procumbent. *Leaves* tufted, small, bright green, bristle-shaped, acute, smooth. *Stipulas* solitary, membranous, lanceolate, occasionally accompanied by 2 minute interior ones; the uppermost short and torn. *Fl.* axillary, 2 or 3 together, stalked, pendulous, bell-shaped, greenish, inodorous. *Cor.* much more deeply divided than it appears in *Engl. Bot.* *Style* very short. *Stigmas* separating to the very base as the fruit ripens. *Berry* scarlet, the size of a red currant, not eatable.
The sprouting stems, when rendered luxuriant by a very rich soil, and boiled, are brought to every table.

196. CONVALLARIA. Lily of the Valley, and Solomon's Seal.

Linn. Gen. 169. *Juss.* 42. *Fl. Br.* 370. *Lam. t.* 248. *Gærtn. t.* 16.
Lilium Convallium; et Polygonatum. *Tourn. t.* 14.
Nat. Ord. see *n.* 195.
Cal. none. *Cor.* inferior, of 1 petal, bell-shaped, deciduous; the limb in 6 obtuse, spreading segments. *Filam.* awl-shaped, equal, inserted into some part of the tube of the corolla, not reaching to the border. *Anth.* terminal, oblong, cloven, erect. *Germen* superior, roundish. *Style* erect, triangular, swelling upwards. *Stigma* obtuse, triangular. *Berry* globular, of 3 cells. *Seeds* 2 in each cell, externally globose, with a horny *albumen*; the *embryo* straight, "opposite to the scar." *Gærtner.*
Perennial smooth *herbs*, with ribbed, entire *leaves*. *Fl.* white, in some marked with green; in several fragrant. *Berries* red; or blueish black; observed by Linnæus to be speckled before they ripen; but this is not without exception.

1. C. *majalis*. Lily of the Valley.

Flower-stalk radical, naked, semicylindrical. Cluster simple. Flowers drooping, cup-shaped, with rather distant segments.

C. majalis. *Linn. Sp. Pl.* 451. *Willd. v.* 2. 160. *Fl. Br.* 370. *Engl. Bot. v.* 15. *t.* 1035. *Curt. Lond. fasc.* 5. *t.* 24. *Abbot* 76. *t.* 2. *Hook. Scot.* 103. *Fl. Dan. t.* 854. *Redout. Liliac. t.* 227. *Bull. Fr. t.* 219.

Polygonatum n. 1241. *Hall. Hist. v.* 2. 118.

Lilium convallium. *Raii Syn.* 264. *Ger. Em.* 410. *f. Matth. Valgr. v.* 2. 227. *f. Camer. Epit.* 618. *f. Brunf. Herb. v.* 1. 211. *f. Trag. Hist.* 572. *f.*

Lamium tertium. *Clus. Pan.* 596. *f. only.*

Ephemerum non letale. *Fuchs. Hist.* 239. *t.* 240.

In groves, heathy ground, or rocky woods.

Perennial. *May.*

Roots thread-shaped, creeping, much entangled. *Leaves* two, radical, elliptical, 3 or 4 inches long, acute, entire, many-ribbed, smooth, stalked. *Footstalks* longer than the leaves, erect, channelled, folded, clasping each other, sheathed at the base with several purplish scales. *Flower-stalk* solitary, simple, radical, on the outside of the footstalks within the uppermost sheath, smooth, naked, semicylindrical, bearing a simple, curved *cluster*, of several pendulous, very elegant and very sweet-scented, white *flowers*. *Bracteas* lanceolate, solitary at the base of each partial stalk. *Tube* of the *corolla* nearly hemispherical; *limb* in 6 deep, broad, recurved lobes, with wide rounded interstices. *Berry* as large as a black currant, scarlet.

There are varieties with double, or with purple, *flowers*, sometimes seen in gardens, but not easy of cultivation, and far less elegant than the wild kind, which is among the most favourite of our native flowers.

2. C. *verticillata*. Narrow-leaved Solomon's Seal.

Leaves linear-lanceolate, whorled.

C. verticillata. *Linn. Sp. Pl.* 451. *Willd. v.* 2. 161. *Fl. Br.* 371. *Engl. Bot. v.* 2. *t.* 128. *Tr. of Linn. Soc. v.* 2. 357. *Hook. Scot.* 103. *Dicks. H. Sicc. fasc.* 18. 6. *Fl. Dan. t.* 86. *Wahlenb. Lapp.* 77.

Polygonatum n. 1244. *Hall. Hist. v.* 2. 120.

P. verticillatum. *Redout. Liliac. t.* 244.

P. angustifolium, non ramosum. *Bauh. Pin.* 303.

P. angustifolium. *Fuchs. Hist.* 586. *f. Ic.* 337. *f. Dalech. Hist.* 1623. *f.*

P. quintum, sive angustifolium primum. *Clus. Hist. v.* 1. 277. *f.*

P. tenuifolium. *Cord. Hist.* 113. *f.*

P. minus. *Ger. Em.* 903. *f.*
P. alterum. *Dod. Pempt.* 345. *f.*
Sigillum Salomonis angustifolium. *Trag. Hist.* 400. *f.*

In woods at the bases of the Scottish mountains, very rare.
In Den Rechip, a deep woody valley, between the hills of Stormont, Perthshire, about 4 miles north-east of Dunkeld. *Mr. Arthur Bruce.*
Perennial. *June.*
Root fleshy, creeping. *Stem* erect, near 2 feet high, simple, angular, smooth; naked at the lower part; clothed above with numerous whorls of sessile, spreading, linear-lanceolate, ribbed *leaves,* 3 or 4 inches long, from 3 to 4 in a whorl, the uppermost often as many as 5, 6, or 7; their under surface glaucous. *Flower-stalks* axillary, solitary, branched, drooping, hardly an inch in length, each bearing from 2 to 4 pendulous, white *flowers,* tipped with green. *Cor.* cylindrical; its segments parallel, near together, bearded withinside under the tips. *Stam.* short, in the mouth of the tube. *Style* short. *Berry* globose, deep blue.

3. C. *Polygonatum.* Angular Solomon's Seal.

Leaves alternate, clasping the angular stem. Stalks axillary, mostly single-flowered. Stamens smooth.

C. Polygonatum. *Linn. Sp. Pl.* 451. *Willd. v.* 2. 161. *Fl. Br.* 371. *Engl. Bot. v.* 4. *t.* 280. *Hook. Lond. t.* 38. *Woodv. Med. Bot. t.* 44. *Fl. Dan. t.* 377.
Polygonatum. *Camer. Epit.* 692. *f.*
P. n. 1242. *Hall. Hist. v.* 2. 119.
P. floribus ex singularibus pediculis. *Bauh. Hist. v.* 3. *p.* 2. 529. *f. Raii Syn.* 263.
P. latifolium, flore majore odoro. *Bauh. Pin.* 303.
P. latifolium secundum. *Clus. Hist. v.* 1. 276. *Ger. Em.* 904. *f.*
P. latifolium. *Dod. Pempt.* 346. *f.*
P. latifolium, flore albo majori odorato. *Barrel. Ic. t.* 711. *f.* 1.
P. vulgare. *Redout. Liliac. t.* 258.
β. P. Hellebori albi folio, caule purpurascente. *Raii Syn.* 263.

In rocky mountainous woods, rare.
On the ledges of the cliffs near Wherf and Settle, Yorkshire; T. Willisel. *Ray.* In Kent. *Mr. J. Rayer.* Woods near Bexley and Dartford. *Mr. Graves.* On Kyloe rocks, a few miles south of Berwick. *Mr. A. Bruce.* Never found in Norfolk.
β. In woods on the north side of Mendip hills, Somersetshire. *Bobart.*
Perennial. *May, June.*
Root fleshy, creeping, abounding with mucilage, which may be separated, by grating and washing, in the form of starch. Bread

is reported to have been made of these roots, in the north of Europe. The *stem* is 12 or 18 inches high, angular, or somewhat two-edged, wavy, leafy, a little curved at the upper part. *Leaves* broadly elliptical, acute, ribbed, plaited; clasping, and more or less tapering, at the base. *Stalks* axillary, drooping, bearing 1, rarely 2, pendulous, conical, green and white *flowers*, smelling powerfully like Hawthorn, or even *Heliotropium peruvianum*. Their segments overlap each other, and are bearded at the point. *Filaments* smooth. *Berry* dark blue. A variety with double, very sweet *flowers*, is sometimes seen in gardens.

We are obliged to Professor Hooker for pointing out the smooth *stamens* of this species, and the straight *style*, as distinguishing it from the following. There are however sufficient characters besides.

4. C. *multiflora*. Common Solomon's Seal.

Leaves alternate, clasping the round stem. Stalks axillary, many-flowered. Stamens downy.

C. multiflora. *Linn. Sp. Pl.* 452. *Willd. v.* 2. 162. *Fl. Br.* 372. *Engl. Bot. v.* 4. *t.* 279. *Hook. Lond. t.* 37. *Scot.* 105. *Fl. Dan. t.* 152. *Dreves Bilderb. t.* 52. *Bull. Fr. t.* 307.

C. foliis amplexicaulibus, caule tereti, &c. *Mill. Ic.* 67. *t.* 101. *f.* 1.

Polygonatum. *Raii Syn.* 263. *Ger. Em.* 903. *f.* *Dod. Pempt.* 345. *f.* *Matth. Valgr. v.* 2. 304. *f.*

P. n. 1243. *Hall. Hist. v.* 2. 119.

P. vulgatius. *Camer. Epit.* 693. *f.*

P. latifolium vulgare. *Bauh. Pin.* 303.

P. latifolium primum. *Clus. Hist. v.* 1. 275. *f.*

P. majus Matthioli. *Dalech. Hist.* 1623. *f.*

P. multiflorum. *Redout. Liliac. t.* 229.

Sigillum Salomonis latifolium. *Trag. Hist.* 399. *f.*

β. Polygonatum humile anglicum. *Raii Syn.* 263.

In woods and thickets, not very common.

In various parts of Berkshire. *Ray.* In Hampshire and Kent. *Dillenius.* In a clay-pit at Gorleston, Suffolk, near Yarmouth. *Dr. Hooker.*

β. In Wiltshire, found by Mr. P. More. *Bobart.*

Perennial. *May, June.*

Root much like the last. *Stem* 2 feet high, round and smooth. *Leaves* of a rather lighter green than the preceding. *Fl.* from 2 to 5 on each stalk, very faintly scented, more cylindrical and elongated than in *C. Polygonatum*, with smaller segments, scarcely folding over each other. *Filaments* downy, as first remarked by Professor Hooker. According to the same authority, and that of Redouté, the *berries* are of a blueish black, as described in *Fl. Brit.*, though Tragus paints them red. I cannot now trace the origin of the same mistake in *Engl. Bot.*

197. ACORUS. Sweet Flag.

Linn. Gen. 172. *Juss.* 25. *Fl. Br.* 373. *Lam. t.* 252. *Gærtn. t.* 84.
Calamus aromaticus. *Mich. Gen.* 43. *t.* 31.

Nat. Ord. *Piperitæ.* Linn. 2. *Aroideæ.* Juss. 7.

Cal. none. *Spadix* naked, nearly cylindrical, simple, covered with sessile flowers, deciduous. *Pet.* 6, inferior, equal, obtuse, concave, lax, rather thicker in the upper part; protuberant at the back. *Filam.* thickish, erect, about the length of the petals, and alternate with them. *Anth.* of 2 roundish lobes, terminal. *Germ.* superior, sessile, elliptic-oblong, the length of the stamens. *Style* none. *Stigma* hemispherical, obscurely 3-lobed. *Caps.* triangular, abrupt, membranous, of 3 cells, not bursting. *Seeds* several, ovate-oblong.

Aromatic smooth herbs, with creeping, horizontal, scarred, woody *roots*. *Stem* none. *Leaves* radical, equitant, sword-shaped, pointed. *Stalk* solitary, radical, central, compressed, quite simple, bearing one lateral *spadix*, surmounted by a leafy point. Only 2 species are known; the exotic one, brought from China, is hardy in our gardens.

1. A. *Calamus*. Common Sweet Flag.

Leafy summit of the flower-stalk rising high above the spadix.

A. Calamus. *Linn. Sp. Pl.* 462. *Willd. v.* 2. 199. *Fl. Br.* 373. *Engl. Bot. v.* 5. *t.* 356. *Woodv. Med. Bot. t.* 173. *Purton v.* 3. 31. *Leers* 86. *t.* 13. *f.* 12. *Fl. Dan. t.* 1158.
A. n. 1307. *Hall. Hist. v.* 2. 164.
A. verus. *Bauh. Theatr.* 626. *f.*
A. verus, sive Calamus officinarum. *Raii Syn.* 437.
A. verus, officinis falsò Calamus. *Ger. Em.* 62. *f.*
Acorum. *Matth. Valgr. v.* 1. 19. *f. Camer. Epit.* 5. *f.*
Typha aromatica, clavâ rugosâ. *Moris. v.* 3. 246. *sect.* 8. *t.* 13. *f.* 4.

In watery places, about the banks of rivers, but not very general. In the rivers of Norfolk plentiful. On Hillingdon common, Middlesex, and in other places about London. Relhan, Sibthorp, Abbot and Purton have it in their Floras. In Scotland it is unknown.

Perennial. *June.*

Root thick, rather spongy, with many long *radicles*, aromatic, like every part of the herbage, but much more powerfully so. *Leaves* erect, 2 or 3 feet high, bright green, near an inch broad. *Stalk* like the leaves, except being thicker below the *spadix*, and not

quite so tall. *Spadix* about a foot above the root, a little spreading, 2 or 3 inches long, tapering, covered with a mass of very numerous, thick-set, pale green *flowers*, which have no scent, except when bruised. A very narrow wavy membrane may be observed at the base of the *spadix*, which perhaps ought to be taken into the generic character as a *spatha*.

The *flowers* are rare. The dried *root* powdered is used, by the country people in Norfolk, for curing the ague. On the Mayor's day, in June, the cathedral of Norwich, and some of the streets, have from time immemorial been strewed, or decorated, with this plant, which, when trodden upon, smells somewhat like myrtle; but having become less plentiful, its place is now partly supplied by *Iris Pseud-acorus*, or the larger kinds of *Carex*.

198. JUNCUS. Rush.

Linn. Gen. 173. *Juss.* 44. *Fl. Br.* 374. *Mich. Gen.* 37. *t.* 31. *Br. Prodr.* 258. *Bicheno Tr. of L. Soc. v.* 12. 297. *Lam. t.* 250. *Gærtn. t.* 15.

Nat. Ord. *Tripetaloideæ.* Linn. 5. *Junci.* Juss. 13. *N.* 199. the same.

Cal. inferior, of six oblong, acute, permanent leaves; 3 of them internal and rather the smallest. *Cor.* none. *Filam.* capillary, short, attached to the base of the calyx-leaves; 3 of them sometimes wanting. *Anth.* oblong, erect, of 2 cells, bursting lengthwise. *Germ.* superior, triangular. *Style* simple, cylindrical, short, deciduous. *Stigmas* 3, elongated, tapering, downy. *Caps.* triangular, smooth, invested with the permanent calyx, of 3 cells, and 3 firm valves with central partitions. *Seeds* very numerous, minute, roundish, inserted all along the inner edge of each partition, often furnished with a partial *tunic*.

Roots fibrous, or creeping, mostly perennial. *Herbage* smooth. *Stem* simple, naked, or more or less leafy; spongy within, rigid, sometimes spinous at the summit. *Leaves* alternate, channelled or flat, undivided, and for the most part, if not invariably, entire; sometimes internally cellular. *Fl.* lateral or terminal, panicled, or somewhat capitate, greenish, with a pair of close *bracteas* to each. *Caps.* often dark-coloured, and highly polished.

* *Leaves none.*

1. J. *acutus*. Great Sharp Sea Rush.

Stem naked, sharp-pointed. Panicle aggregate, near the

summit. Bractea spinous. Capsule twice as long as the calyx, roundish, with a blunt point.

J. acutus. *Linn. Sp. Pl.* 463. *Willd. v.* 2. 204. *Fl. Br.* 374. *Engl. Bot. v.* 23. *t.* 1614. *Bicheno Tr. of L. Soc. v.* 12. 297. *Lam. Dict. v.* 3. 264.

J. acutus, capitulis Sorghi. *Bauh. Pin.* 11. *Prodr.* 21. *f. Theatr.* 173. *f. Raii Syn.* 431. *Scheuchz. Agr.* 338.

J. pungens, sive J. acutus capitulis Sorghi. *Bauh. Hist. v.* 2. 520. *f,* bad. *Moris. v.* 3. 232. *sect.* 8. *t.* 10. *f.* 15, good.

J. maritimus, Sorghi paniculâ utriculatâ. *Barrel. Ic. t.* 203. *f.* 2.

On the sea coast, in deep sand.

On the coast of Merionethshire, plentifully. *Ray.* At Brancaster, Norfolk. *Mr. Crowe.* Holker, Lancashire. *Mr. Woodward.* Instow, Devonshire; and on Braunston Burrows, plentifully. *Bishop of Carlisle.* In the county of Wicklow, Ireland. *Dr. Wade.*

Perennial. *July.*

Root fibrous, densely tufted, running deep into the sand. *Stems* 3 or 4 feet high, (in Ireland 7 or 8 feet, according to Dr. Wade,) erect, straight, simple, round, smooth, leafless, stiff and very strong, with a sharp rigid point, turned somewhat aside by the *panicle,* and rising a little above it. *Leaves* none, though the barren stems have been taken for such. *Panicle* compound, and repeatedly subdivided, from a lateral sheathing cleft, near the top of each stem, corymbose, many-flowered; its *branches* smooth, obtusely compressed. *Bractea* resembling the point of the stem, which embraces it at the bottom, but smaller, and more spreading; *inner ones* several, still smaller, tapering, with membranous points. *Fl.* partly capitate. Three inner *calyx-leaves* obtuse. *Stam.* broad and short. *Style* scarcely any. *Caps.* broadly ovate, hard, brown, sharp-pointed, with 3 blunt angles, and in the upper part as many intermediate depressions; its lower half invested with the withered *calyx. Seeds* ovate, pellucid; *tunic* unilateral, elongated at each end.

I readily concur with Mr. Bicheno in considering the inflorescence as lateral in all this tribe of *Junci;* which is justified by analogy, though it may seem paradoxical, in this species and the next. Nor is the question without difficulty, as all who ever thought on the subject have long ago perceived.

2. J. *maritimus.* Lesser Sharp Sea Rush.

Stem naked, sharp-pointed. Panicle proliferous, near the erect summit. Bractea spinous. Capsule oblong, the length of the calyx.

J. maritimus. *Fl. Br.* 375. *Engl. Bot. v.* 24. *t.* 1725. *Bicheno Tr. of L. Soc. v.* 12. 299. *Galp. Comp.* 28. *Lam. Dict. v.* 3. 264.

J. acutus β. *Linn. Sp. Pl.* 464. *Willd. v.* 2. 205. *Huds.* 148. *With.* 346. *Hull* 75.

J. acutus maritimus anglicus. *Raii Hist. v.* 2. 1303. *Syn.* 431. *Moris. v.* 3. 232. *sect.* 8. *t.* 10. *f.* 14. *Scheuchz. Agr.* 340.

In marshes near the sea, along with the preceding, but much more plentiful.

In the salt marshes of Essex and Wales. *Ray.* Lancashire. *Rev. W. Wood.* Near St. Andrews, Scotland. *Mr. J. Mackay.* About Burnham and Holkham, Norfolk.

Perennial. *August.*

Smaller and more slender than *J. acutus*, with more of a glaucous hue. *Panicle* and *bractea*, as well as the summit of the *stem*, more erect; the *bractea* much shorter in proportion, and the main branches of the *panicle* more unequal. *Calyx-leaves* acute, with a membranous wavy border, often jagged towards the point. *Caps.* much smaller than the last, of an oblong prismatic figure, not at all ovate, or rounded, and not projecting beyond the calyx.

Willdenow appears to have led Mr. Bicheno into an error respecting Lamarck's synonym.

3. J. *glaucus*. Hard Rush.

Stem naked, straight, glaucous. Panicle upright, far below the summit. Capsule elliptical, pointed, rather shorter than the calyx.

J. glaucus. *Sibth.* 113. *Fl. Br.* 375. *Engl. Bot. v.* 10. *t.* 665. *Willd. v.* 2. 206. *Bicheno Tr. of L. Soc. v.* 12. 300. *Hook. Scot.* 105. *Ehrh. Calam.* 85. *Fl. Dan. t.* 1159. *Wahlenb. Lapp.* 79.

J. n. 1311 *α*. *Hall. Hist. v.* 2. 167.

J. effusus *β*. *Huds.* 149.

J. inflexus. *Relh.* 141. *With.* 345. *Hull* 75. *Abbot* 78. *Leers* 87. *t.* 13. *f.* 3.

J. acutus. *Raii Syn.* 432. *Ger. Em.* 35. *f. Dod. Pempt.* 605. *f.*

J. acutus vulgaris. *Moris. v.* 3. 232. *sect.* 8. *t.* 10. *f.* 13. *Lob. Ic.* 85. *f.*

J. foliaceus. *Bauh. Hist. v.* 2. 521. *f.*

In wet pastures, or moist waste ground by road sides, on a poor soil, not uncommon.

Perennial. *July.*

Root moderately creeping, black, with stout fibres. *Stems* rigid and very tough, glaucous, striated, 18 inches or 2 feet high, rather more slender than the last; tapering and acute, scarcely pungent, at the summit; sheathed at the base, with large, brown, polished, partly pointed, close scales. Panicle generally about half way between the root and the summit, without any external *bractea*, aggregate, with roundish branches of unequal length, nearly upright, cymose. *Calyx-leaves* awl-shaped, pale brown with a darker keel. *Stamens* 6, with long, bright yellow, *anthers*.

Caps. acutely triangular, elliptical, with a sharp point, scarcely so long as the 3 shortest, internal, leaves of the *calyx*.

Mr. Bicheno has adopted my suggestion in *Engl. Bot.*, in taking the supposed *leaves*, of this and its allies, for barren *stems*, which can scarcely be disputed. In the last-mentioned work, *p.* 665. *l.* 4 from the bottom, *effusus* is misprinted for *conglomeratus*.

Many synonyms and figures of early authors, quoted by Linnæus for his *J. inflexus*, which I believe to be a nonentity, probably belong to our *glaucus*; but they give a wrong idea of its position. I have in vain sought for any thing that could answer to *J. inflexus*, either in a state of nature, in gardens, or in old collections.

4. J. *conglomeratus*. Common Rush.

Stem naked, straight. Panicle dense, globular, far below the summit. Capsule abrupt. Stamens three.

J. conglomeratus. *Linn. Sp. Pl.* 464. *Willd. v.* 2. 205. *Fl. Br.* 376. *Engl. Bot. v.* 12. *t.* 835. *Bicheno Tr. of L. Soc. v.* 12. 302. *Hook. Scot.* 105. *Ehrh. Calam.* 65. *Leers* 86. *t.* 13. *f.* 1. "*Fl. Dan. t.* 1094."

J. n. 1312. *Hall. Hist. v.* 2. 167.

J. lævis vulgaris, paniculâ compactiore. *Raii Syn.* 432.

J. lævis, paniculâ conglomeratâ. *Scheuchz. Agr.* 343.

J. lævis, paniculâ non sparsâ. *Bauh. Pin.* 12. *Theatr.* 183. *Moris. v.* 3. 231. *sect.* 8. *t.* 10. *f.* 7.

J. lævis. *Dalech. Hist.* 984. *f.*

J. Matthioli. *Bauh. Hist. v.* 2. 520. *f.*

Juncus. *Matth. Valgr. v.* 2. 383. *f.* *Camer. Epit.* 780. *f.*

In pastures, and by road-sides, in moist situations, common.

Perennial. *July*.

Root creeping, horizontal. *Stems* about 2 feet high, quite erect, all generally fertile, grass-green, striated, acute, but not pungent; sheathed at the bottom with close, brown, obtuse scales. *Panicle* more than half way up the stem, bursting from a small, membranous-edged fissure, without a *bractea*, corymbose, very dense, mostly globular. *Calyx-leaves* pointed; the inner ones most membranous, with 2 ribs. *Stam.* always 3 only. *Caps.* ovate, strongly triangular, obtuse, with a small point, purplish-brown, polished, about the length of the *calyx*.

The *stems* are more soft and pliant than any of the foregoing, full of a snow-white highly compressible pith, which serves for rush-lights, or watch-candles; as the entire stems do for mats, chair-bottoms, and many similar uses, in common with the next species. They both probably served for strewing floors in England, as mentioned by Shakspear and Sir Thomas More, about the time of Edward 4th, and later; till more refined manners wrought them into mats, and foreign commerce at length introduced car-

pets. For the former purpose indeed, as well as for chair-bottoms and hassocks, *Scirpus lacustris, v.* 1. *p.* 56, has superseded their use.

5. J. *effusus.* Soft Rush.

Stem naked, straight. Panicle loose, repeatedly compound, very far below the summit. Capsule obtuse.

J. effusus. *Linn. Sp. Pl.* 464. *Willd. v.* 2. 205. *Fl. Br.* 376. *Rel. Rudb.* 24. *f. Engl. Bot. v.* 12. *t.* 836. *Bicheno Tr. of L. Soc. v.* 12. 303. *Hook. Scot.* 105. *Ehrh. Calam.* 75. *Leers* 87. *t.* 13. *f.* 2. "*Fl. Dan. t.* 1096."

J. n. 1311 β. *Hall. Hist. v.* 2. 167.

J. lævis vulgaris, paniculâ sparsâ nostras. *Raii Syn.* 432.

J. lævis, paniculâ sparsâ, major. *Bauh. Pin.* 12. *Theatr.* 182. *f. Scheuchz. Agr.* 341. *Moris. v.* 3. 231. *sect.* 8. *t.* 10. *f.* 4.

J. lævis. *Ger. Em.* 35. *f. Dod. Pempt.* 605. *f.*

β. J. lævis alter. *Moris. v.* 3. 231. *n.* 5.

In wet pastures, and boggy places by road-sides, common. Perennial. *July.*

Root somewhat creeping. *Stems* like the last, but rather paler, very soft and pliable. *Panicle* loose and spreading, very much branched, with a great multitude of small green *flowers. Calyx-leaves* finely pointed; the 3 outermost with a broad obtuse keel; innermost with 2 distant ribs. *Stam.* usually 6; rarely 3 only. *Caps.* small, obtuse, but rather less abrupt than in *J. conglomeratus.* This species is as useful as the last, for various economical purposes, being even more soft and flexible, with a greater quantity of pith.

β, preserved in Bobart's herbarium at Oxford, is a slight variety, with a less diffuse panicle.

6. J. *filiformis.* Least Rush.

Stem naked, thread-shaped, drooping. Panicle nearly simple, corymbose, of few flowers, very far below the summit. Bractea taper-pointed. Capsule almost globular.

J. filiformis. *Linn. Sp. Pl.* 465. *Willd. v.* 2. 207. *Fl. Br.* 377. *Engl. Bot. v.* 17. *t.* 1175. *Spicil.* 2. *t.* 3. *Bicheno Tr. of L. Soc. v.* 12. 304. *Dicks. Dr. Pl.* 32. *H. Sicc. fasc.* 14. 16. *Hook. Scot.* 105. *Ehrh. Calam.* 95. *Leers* 87. *t.* 13. *f.* 4. *Fl. Dan. t.* 1207.

J. n. 1313. *Hall. Hist. v.* 2. 168.

J. parvus, calamo supra paniculam compactam longiùs producto. *Raii Syn.* 432. *Pluk. Almag.* 200. *Phyt. t.* 40. *f.* 8.

J. lævis, paniculâ sparsâ, minor. *Bauh. Pin.* 12. *Theatr.* 183. *Scheuchz. Agr.* 347. *t.* 7. *f.* 11. *Moris. v.* 3. 231.

About the margins of lakes in the North, but very rare.

Near Ambleside, Westmoreland; Mr. Newton. *Ray.* At Windermoor in Cartmel, Lancashire; Mr. Jackson. *With.* Near Derwentwater, Cumberland; and on Ben Lawers, Scotland. *Mr. Dickson.* In several parts of Scotland. *Mr. G. Don.*

Perennial. *August.*

Root creeping. *Stems* about a foot high, very slender, pliant, light green, drooping or curved above the *panicle,* which is usually situated about the middle, and consists of from 5 to 8 green *flowers,* not more than 2 on each stalk, with a taper-pointed *bractea* at the base of the whole. *Calyx* obscurely ribbed. *Caps.* nearly as long as the calyx, tumid, and almost globose, with a small point. There are often a few barren stems.

Mr. Bicheno has always found 6 *stamens* in this species, though he has frequently observed but 3 in the *effusus.*

7. J. *arcticus.* Arctic Rush.

Stem naked, straight, acute. Panicle towards the summit, dense, capitate, of few flowers. Bractea shorter than the panicle. Capsule oblong, bluntish.

J. arcticus. *Willd. Sp. Pl. v.* 2. 206. *Wahlenb. Lapp.* 79. *Hook. Scot.* 104.

J. effusus β. *Linn. Suec. ed.* 2. 111. *Fl. Dan. t.* 1095 (not 1035).

J. n. 116. *Linn. Lapp. ed.* 1. 85. *ed.* 2. 90; excluding *J. Jacquini,* and the synonyms of Scheuchzer and Rudbeck.

On the eastern coast of Scotland, very rare.

On the sands of Barry, near Dundee; Mr. Drummond. *Hooker.*

Perennial. *July, August.*

Root creeping extensively. *Stems* from 8 to 12 inches high, much stouter than the last, erect, quite smooth, acute, somewhat pungent; with several obtuse, light brown, sheathing scales at the base. *Panicle* capitate, within little more than an inch of the summit, having a rather membranous, concave, obtuse *bractea,* longer than the *flower-stalks,* at its base. *Fl.* few, crowded, oblique, with several thin, broad, interior *bracteas. Calyx-leaves* lanceolate, bluntish, of a dark shining brown, with a pale keel. *Caps.* about the same length, oblong, obtuse with a small point. —From the descriptions of Wahlenberg and Hooker, compared with Lapland specimens. Schleicher seems to have found the same plant in Switzerland.

** *Herb leafy.*

8. J. *trifidus.* Three-leaved Rush.

Stem naked. Radical leaves very few. Bracteas three, leafy, channelled, with from one to three terminal flowers.

J. trifidus. *Linn. Sp. Pl.* 465. *Willd. v.* 2. 208. *Fl. Br.* 378. *Engl. Bot. v.* 21. *t.* 1482. *Bicheno Tr. of L. Soc. v.* 12. 314. *Lightf.*

183. *t.* 9. *f.* 1. *Hook. Scot.* 107. *Dicks. H. Sicc. fasc.* 1. 6. *Fl. Dan. t.* 107. *Bauh. Hist. v.* 2. 521. *f.* 522.

J. monanthus. *Jacq. Enum.* 61. 236. *t.* 4. *f.* 1.

J. n. 1315. *Hall. Hist. v.* 2. 168.

J. acumine reflexo, trifidus. *Bauh. Prodr.* 22. *f. Theatr.* 185. *f. Moris. v.* 3. 233.

J. idæus, vel petræus. *Gesn. Fasc.* 14. *t.* 4. *f.* 16.

Juncoides alpinum trifidum. *Scheuchz. Agr.* 325.

In alpine bogs in Scotland.

Perennial. *July.*

Root creeping, black, with numerous fibres. *Stems* crowded, erect, slender, thread-shaped, striated, about a span high, naked, except at top and bottom. *Radical leaves* 1 or 2, with a tight sheathing base, very narrow, channelled, acute, nearly upright, much shorter than the stem, frequently wanting; their *sheaths* enveloped with several imbricated, membranous scales, of a light shining brown. *Bracteas* 3, rarely but 2, at the top of the stem, resembling the radical leaves, though generally longer, nearly erect; dilated, membranous, frequently abrupt, or auricled, at their base. *Fl.* terminal, 1, 2, or 3, sessile or stalked, erect, with 2 interior, membranous, brown *bracteas*. *Calyx-leaves* dark brown, acute, ribbed. *Filam.* very short. *Anth.* linear, oblong. *Caps.* elliptical, pointed, rather longer than the calyx. *Seeds* large, not very numerous.

9. J *squarrosus*. Moss Rush. Goose Corn.

Stem naked. Leaves numerous, radical, channelled. Panicle terminal, compound, with cymose branches.

J. squarrosus. *Linn. Sp. Pl.* 465. *Willd. v.* 2. 209. *Fl. Br.* 378. *Engl. Bot. v.* 13. *t.* 933. *Bicheno Tr. of L. Soc. v.* 12. 306. *Hook. Scot.* 105. *Fl. Dan. t.* 430. *Ehrh. Calam.* 39.

J. Sprengeli. *Willd. Prodr.* 125. *t.* 4. *f.* 8. *Roth Germ. v.* 2. 407.

J. n. 1317. *Hall. Hist. v.* 2. 169.

J. montanus palustris. *Raii Syn.* 432.

Junco affinis, paniculâ laxâ, seu longioribus pediculis, insidente. *Scheuchz. Agr.* 350.

Gramen junceum maritimum. *Ger. Em.* 21. *f. Lob. Ic.* 18. *f.*

G. junceum, foliis et spicâ junci. *Bauh. Pin.* 5. *Theatr.* 75. *f. Moris. v.* 3. 228. *sect.* 8. *t.* 9. *f.* 13.

G. junceum, semine acuminato. *Loes. Pruss.* 115. *t.* 29.

In boggy spots, on the most barren sandy heaths, plentifully.

Perennial. *June, July.*

Root tufted, rather woody, with many long, stout fibres. *Stems* solitary, erect, about a foot high, simple, naked, smooth, bluntly triangular, a little glaucous. *Leaves* numerous, all radical, somewhat spreading, 3 or 4 inches long, rigid, linear, narrow, acute, channelled, smooth; dilated and sheathing at the base.

Panicle of 3 or 4 alternate, cymose, bracteated, upright branches, with a very few large *flowers* on each. *Bracteas* membranous, sheathing; the lowermost with a short leafy point. *Calyx-leaves* lanceolate, of a shining brown; membranous at the edges; the keel ribbed. *Anth.* long, linear. *Caps.* the length of the calyx, polished, obovate, with a small point.

Gerarde's and Lobel's figures are indubitable, though faulty in the top of the *panicle*.

10. J. *compressus*. Round-fruited Rush.

Stem simple, compressed; leafy below. Leaves linear, incurved at the edges. Panicle cymose, terminal, shorter than the bractea. Capsule roundish-obovate, longer than the obtuse calyx.

J. compressus. *Jacq. Enum.* 60. 235. *Bicheno Tr. of L. Soc. v.* 12. 307.

J. bulbosus. *Linn. Sp. Pl. ed.* 2. 466. *Willd. v.* 2. 213. *Fl. Br.* 381. *Engl. Bot. v.* 13. *t.* 934. *Huds.* 150. *Hook. Scot.* 107. *Leers* 89. *t.* 13. *f.* 7.

J. bottnicus. *Wahlenb. Lapp.* 82. *t.* 5 ?

J. n. 1318. *Hall. Hist. v.* 2. 169. According to Swiss specimens.

J. parvus, cum pericarpiis rotundis. *Raii Syn.* 433. *Bauh. Hist. v.* 2. 522. *f.* The description rather belongs to *J. squarrosus.*

J. repens ακροκαρπος (not αμφικαρπος as in Haller), minor botroides. *Barrel. Ic. t.* 114. *f.* 1.

Juncoides angustifolium glabrum, paniculâ sparsâ. *Scheuchz. Agr.* 320.

Gramen junceum, sorghi capitulis. *Barrel. Ic. t.* 747. *f.* 1.

In moist pastures.

Perennial. *July, August.*

Root horizontal, creeping, with numerous fibres; not at all bulbous. *Stems* erect, from 6 to 12 inches high, simple, smooth; round and leafy in the lower part; naked and compressed above. *Leaves* linear, acute, slightly spreading, channelled, with slightly incurved edges; dilated, sheathing and membranous at the base. *Panicle* compound, with many corymbose, slender, angular, or striated, smooth branches. *Bracteas* leafy, channelled; the principal one erect, rising more or less above the panicle. *Fl.* numerous, small, pale green. *Calyx-leaves* concave, obtuse, with a slight keel, and 2 brown lateral ribs; the inner ones broadest, and rather the shortest. *Caps.* roundish-obovate, scarcely globose, slightly pointed, longer than the calyx, of a light shining brown.

I most heartily concur with Mr. Bicheno in freeing our nomenclature from the absurd name of *bulbosus* for this species, which originally arose from a misapplication of synonyms, now cor-

rected. Nor have I any doubt of the propriety of distinguishing the following, though they have been confounded by Linnæus in his herbarium, by Dickson in his *H. Sicc. fasc.* 13. 14, by Haller, in their synonyms at least, and hitherto perhaps by all botanists. Gmelin's figure, *Fl. Sib. t.* 17. *f.* 2, cited by Wahlenberg for his *bottnicus*, is so very bad as to be unintelligible, nor can I quite satisfy myself respecting this last-mentioned species, by a single Nuremberg specimen from Dr. Panzer, which is all I have seen. The very suitable name of *compressus* is authorized by an early work of Jacquin, his *Enumeratio*, or Catalogue of the plants about Vienna, published in 1762, with *observations* upon the rarer species at the end. Willdenow has misled Mr. Bicheno to quote this publication by another title, *Jacq. Obs.*, under *J. trifidus*, which may cause a mistake, Jacquin's *Observationes* being a very different and more common book.

11. J. *cœnosus*. Mud Rush.

Stem simple, leafy. Leaves linear, channelled. Panicle cymose, terminal, longer than the bractea. Capsule obovate, the length of the rather obtuse calyx.

J. cœnosus. *Bicheno Tr. of L. Soc. v.* 12. 309.
J. bulbosus β. *Hook. Scot.* 107.
J. bulbosus. *Fl. Dan. t.* 431. *Ehrh. Calam.* 18.
Gramen junceum, junci sparsâ paniculâ. *Moris. v.* 3. 227. *sect.* 8. *t.* 9. *f.* 11.
G. junceum, milii paniculâ. *Barrel. Ic. t.* 747. *f.* 2.

In salt marshes, and muddy places towards the sea, abundantly.

Differs from the last in the darker colour of the whole plant, but especially of the *flowers* and *capsule*. The *stem* is more leafy, and in the upper part rather triangular than compressed. *Leaves* more rigid, and externally striated. *Panicle* less compound, not overtopped by the *bractea*, but often rising considerably above it. Pair of *bracteas* under each flower of a shining brown, not white or greenish. *Calyx-leaves* all oblong, and nearly equal in breadth, as well as in length, with an obtuse, concave, or incurved point, all of a chocolate brown, with a broad, tumid, green, striated, 3-ribbed keel, and closing round the *capsule*, which hardly ever extends beyond them, and is brown, obovate, triangular, bluntish with a small point, altogether less tumid than the foregoing.

Mr. E. Forster found a dwarf variety of *J. cœnosus*, about 3 inches high, on the coast of Glamorganshire.

The appropriation of the synonyms of these two species is a matter of great difficulty, and after having studied the original authors with some care, I must submit them to the correction of future critics. All my Swiss specimens, from various quarters, consi-

dered as Haller's n. 1318, are the *compressus*, not *cœnosus*; which is no wonder, the latter being a maritime species.

12. J. *Gesneri*. Slender Spreading Rush.

Stem simple, naked. Leaves slightly channelled. Panicle forked, racemose, shorter than the bractea. Calyx-leaves lanceolate, taper-pointed, three-ribbed, longer than the oval capsule.

J. gracilis. *Engl. Bot. v.* 31. *t.* 2174. *Comp.* 56. *Bicheno Tr. of L. Soc. v.* 12. 313.

J. tenuis. *Hook. Scot.* 108; but not of Pursh.

Junci genus aliud. *Gesn. Fasc.* 12. *t.* 5. *f.* 13.

On the mountains of Scotland.

In dry elevated pastures in Scotland. *Mr. Dickson.* By a rivulet in marshy ground, among the mountains of Clova, Angusshire, very rare. *Mr. G. Don.*

Perennial. *July.*

Root fibrous, slightly woolly, as in grasses that grow in sand. *Stem* very slender, upright, a foot or more in height, naked, somewhat triangular in the upper part. *Leaves* very few, radical, shorter than the stem, erect, linear, narrow, acute; convex and ribbed beneath; channelled, but shallow, above; involute when dry; dilated and membranous at the base. *Bracteas* 2 or 3, leafy, erect; the principal one rising above the panicle; the others much shorter. *Panicle* forked, of 3 or 4 very unequal, rather spreading, branches; the larger ones also forked; the upper part of all racemose. *Fl.* nearly sessile, pale. *Calyx-leaves* lanceolate, taper-pointed, acute, green, 3-ribbed, striated, with narrow, white, membranous edges. *Capsule* pale brown, polished, oval, or slightly obovate, with a minute point, considerably shorter than the calyx; valves very slightly emarginate. *Seeds* very numerous, minute, pellucid, amber-coloured.

J. tenuis of Willdenow, and of Pursh, from Mr. F. Boott, though similar to this, differs essentially in having the *panicle* cymose throughout, not racemose; *calyx-leaves* broader, with 2 principal ribs, of a light brown, the keel being green, and for the most part flat.

The *panicle, calyx* and *capsule,* in Gesner's figure most precisely answer to our *J. gracilis;* but he accidentally represents a leaf on the middle of the stem. Haller refers to this synonym under our *compressus,* with which it by no means agrees. Mr. Bicheno is scarcely exact as to the chronology of the name *gracilis;* for Mr. Brown's *Prodromus* appeared but in 1810, and I certainly had not seen it when *p.* 2174 of *Engl. Bot.* was printed. Nevertheless it is better to give up a name which may be disputed, and which has been variously applied before. Gesner's synonym seems incontrovertible.

13. J. *bufonius*. Toad Rush.

Stem leafy. Leaves angular, channelled. Panicle forked, racemose, longer than the bracteas. Calyx-leaves lanceolate, taper-pointed, membranous, two-ribbed, longer than the oblong capsule.

J. bufonius. *Linn. Sp. Pl.* 466. *Willd. v.* 2. 213. *Fl. Br.* 381. *Engl. Bot. v.* 12. *t.* 802. *Bicheno Tr. of L. Soc. v.* 12. 311. *Hook. Scot.* 108. *Leers* 89. *t.* 13. *f.* 8. "*Fl. Dan. t.* 1098." *Ehrh. Calam.* 96. *Dicks. H. Sicc. fasc.* 4. 6. *Rose's Bot.* 452. *t.* 2. *f.* 5, 6; *seedling plants.*

J. n. 1319. *Hall. Hist. v.* 2. 170.

J. palustris humilior erectus. *Raii Syn.* 434.

Gramen nemorosum, calyculis paleaceis. *Bauh. Pin.* 7. *Theatr.* 100. *f. Moris. v.* 3. 228. *sect.* 8. *t.* 9. *f.* 14. *Scheuchz. Agr.* 327.

G. junceum. *Ger. Em.* 4. *f.*

G. bufonium. *Barrel. Ic. t.* 263, 264.

Holosteum Matthioli. *Lob. Ic.* 18. *f.*

β. Gramen juncoides minimum anglo-britannicum. *Dill. in Raii Syn.* 434.

G. junceum minimum, Holosteo Matthioli congener. *Park. Theatr.* 1270. *f.*

In marshy ground, especially on watery sandy heaths, common.

Annual. *July, August.*

Root of many downy fibres. *Herb* pale green, in β reddish, various in luxuriance. *Stems* numerous, crowded, erect or spreading, from 3 inches to a foot or more in height, round, smooth, somewhat branched, leafy, especially at the lower part; panicled above. *Leaves* linear, narrow, ribbed, angular, channelled, acute, dilated at the base. *Bracteas* very slender, erect, much shorter than the *panicle*, which is forked, with many racemose, lax, greatly elongated, branches. *Fl.* nearly sessile, mostly solitary, erect, pale and silvery, with 2 or 3 very white pellucid *bracteas* at their base. *Calyx-leaves* lanceolate, taper-pointed, acute, green at the back, with 2 ribs, and sometimes an intermediate keel, the margins, beyond the ribs, broad, membranous, and shining. *Caps.* elliptic-oblong, triangular, reddish-brown, bluntish, generally much shorter than the *calyx*, and always of a much narrower figure than in any of the foregoing.

Haller's third variety, *G. holosteum alpinum minimum* of the Bauhins, abundant, as they say, on mount St. Bernard, from whence I have it, has the *capsule* nearly as long as the *calyx*, but otherwise scarcely differs from our common more dwarf and spreading varieties. The 2 ribs of the *calyx* vary in this, as in ours, in being either near together, or more remote.

In germination the young plant elevates the *seed* considerably above ground, so as to look like a moss with *capsules*; as re-

presented by Mr. Rose, and preserved in the Linnæan herbarium. The same is described in Weigel's *Obs.* 36. *t.* 2. *f.* 7, as a cryptogamic production.

14. J. *uliginosus*. Little Bulbous Rush.

Stem leafy, bulbous at the base. Leaves bristle-shaped, channelled. Heads lateral and terminal, about three-flowered. Capsule obtuse, rather longer than the calyx.

J. uliginosus. *Sibth.* 115. *Fl. Br.* 380. *Engl. Bot. v.* 12. *t.* 801. *Bicheno Tr. of L. Soc. v.* 12. 315. *Hook. Scot.* 108. *Relh.* 138. *Don H. Br.* 84.
J. articulatus γ. *Huds.* 150. *With.* 347.
J. bulbosus. *Linn. Sp. Pl. ed.* 1. 327.
J. supinus. *Don H. Br.* 85.
J. n. 1320. *Hall. Hist. v.* 2. 170.
Gramen junceum, capsulis triangulis, minimum. *Raii Syn.* 434.
G. junceum minimum, holosteo Matthioli congener. *Moris. v.* 3. 227. *sect.* 8. *t.* 9. *f.* 3.

β. *Fl. Br.* 380. *Bicheno, as above.*
J. supinus. *Mœnch. Hass. n.* 296. *t.* 5. According to Lachenal and Davall.
Juncoides calyculis paleaceis glomeratis, folio varians. *Scheuchz. Agr.* 330. *t.* 7. *f.* 10.
Gramen junceum aquaticum, paniculis cum foliis capillaribus simul ortis, proliferum. *Pluk. Phyt. t.* 32. *f.* 3. *Moris. v.* 3. 227. *sect.* 8. *t.* 9. *f.* 4.

On moist sandy or turfy heaths frequent.
Perennial. *June, July.*
Root of several fibres. *Stems* at first erect, from 2 to 6 inches high, slightly leafy, somewhat branched, subsequently reclining; bulbous at the base. *Leaves* slender, acute, semicylindrical, channelled, not externally knotty or jointed; though cellular, like the whole genus, within; radical ones several, with a dilated, membranous, often reddish, base, sheathing the bulbous part of the stems. *Fl.* usually 3 together, in small, lateral or terminal, reddish heads, with leafy *bracteas*. *Calyx-leaves* lanceolate, acute, keeled, with 3 slender ribs; dark brown in decay. *Caps.* light brown, narrow, prismatic, obtuse, a little longer than the calyx.
In β, the *stem* being decumbent, several of the *flowers* are copiously viviparous, whether from transformation of their organs, or premature germination of the *seeds* from wet, is not very evident. The plant itself, on open wet heaths, is common enough. The Rev. Dr. Burgess sent Scottish specimens formerly to Linnæus.
I first ascertained it, when a very young botanist, in 1779, on

Dersingham moor, Norfolk; and always considered it as the true Linnæan *J. bulbosus*; a name which it ought still perhaps to have retained, but which having been long otherwise misapplied, is best laid aside altogether. See *J. compressus* and *cœnosus*.

15. J. *subverticillatus*. Whorl-headed Rush.

Stem leafy, trailing. Leaves bristle-shaped, channelled, very slightly jointed. Panicle forked. Heads lateral and terminal, about five-flowered, somewhat whorled. Capsule obtuse, rather longer than the calyx.

J. subverticillatus. *Wulf. in Jacq. Coll. v.* 3. 51. *Willd. Sp. Pl. v.* 2. 212, *excluding nearly all the synonyms. Bicheno Tr. of L. Soc. v.* 12. 322. *Hook. Scot.* 109. *Host Gram. Austr. v.* 3. 58. *t.* 88.
J. setifolius. *Ehrh. Calam.* 86.
J. uliginosus γ. *Bicheno Tr. of L. Soc. v.* 12. 316 ?
J. bulbosi varietas, maximè repens et vivipara. *Fl. Dan. fasc.* 14. 6. *t.* 817; *excluding the synonyms.*

In boggy and watery places frequent.
Perennial. *July, August.*
Root of many long fibres, not creeping. *Stems* several, crowded, scarcely bulbous at the base; either decumbent or floating, sending forth radicles, as well as tufts of leaves, occasionally from the joints, round, slender, smooth, from 6 inches to a foot or more in length, filled with pith. *Leaves* very slender, taper-pointed; semicylindrical beneath; channelled above; cellular, often furnished with internal transverse partitions, but these rarely cause any swelling, or apparent joint, externally; the base is dilated and striated, with a broad, abrupt, often reddish, membranous margin: the radical ones are numerous, erect, 2 or 3 inches long; those on the stem solitary, and somewhat longer. *Panicles* terminal, once or twice forked. *Heads* of *flowers* axillary, lateral, and terminal, nearly sessile, often accompanied by solitary, short, leafy *bracteas*, and subtended by a few very white membranous scales. *Fl.* from 3 to 5 in each head, rather spreading as if whorled; in floating specimens fewer, with a less compound panicle. *Cal.* and *Caps.* differing but little from the last, except being generally of a paler hue.
Willdenow's synonyms chiefly belong to *J. uliginosus*. His variety β is the β of our *uliginosus*.

16. J. *capitatus*. Dense-headed Rush.

Stem erect, unbranched; leafy at the base. Leaves bristle-shaped, channelled. Heads one or two, lateral and terminal. Stamens three. Calyx keeled, bristle-pointed, twice as long as the capsule.

J. capitatus. *Weigel Obs.* 28. *t.* 2. *f.* 5. *Ehrh. Calam.* 8. *Willd. Sp. Pl. v.* 2. 209, *syn. very doubtful. Hook. Scot.* 106.
J. gracilis. *Roth Germ. v.* 1. 155. *v.* 2. *p.* 1. 402.
J. supinus. *Bicheno Tr. of L. Soc. v.* 12. 317 ; *but not of the authors quoted.*
J. foliatus minimus. *Bauh. Hist. v.* 2. 523. *f.*
Schœnus minimus. *Forster in Sym. Syn.* 197.

In sandy ground, very rare.
Found by Mr. Hudson, below the village of Bovet, between Fort George and Fernain bay, in the isle of Jersey. *Symons.*
Annual ? *May—July.*
Herb either solitary, or numerously and densely crowded. *Root* fibrous, apparently annual, quite simple, neither bulbous nor creeping ; fibres smooth. *Stems* 1 or more from the crown of each root, from $1\frac{1}{2}$ to 4 inches high, simple, straight, upright, smooth, angular, striated, leafy at the very bottom only, and bearing at the top a terminal head of *flowers*, sometimes accompanied by another, near an inch below it. In one very luxuriant specimen only I have seen the stem divided at this lower head, and bearing 2 others above it. *Leaves* several, radical, sheathing, erect, one third the height of the stem, very slender, acute ; convex beneath ; channelled above, and when dry involute, quite smooth ; sheathing at the base, with membranous edges. *Bracteas* 1 or 2 under each head, like the leaves, but much shorter, dilated and concave at the base. *Interior bracteas* from 3 to 5 under each head, spreading, lanceolate, acute, membranous, keeled, shorter than the *calyx*. *Fl.* from 2 to 5, sometimes 10, or more, in each head, crowded, spreading every way. *Calyx-leaves* ovate-lanceolate, concave, strongly keeled, membranous, light brown, without ribs ; the keel green, firm, ending in a long, acute, bristly point ; 3 inner ones smallest and most delicate. *Filam.* 3 only, very short, opposite to the outer leaves of the calyx. *Anth.* oblong, erect, spiral after flowering. *Stigmas* 3. *Caps.* about the length of the *stamens*, not half so long as the calyx, roundish, triangular, membranous, obtuse. *Seeds* numerous, oblong, striated, very minute.

Few species of *Juncus*, or of any other genus, have been more misunderstood than this. The above description is drawn up from Mr. Hudson's original specimens, kindly communicated by Mr. E. Forster, and compared with those of Ehrhart and other foreign botanists. None can be more distinct. The 3 *stamens* mark it well ; and the broad, flat-sided, membranous *calyx-leaves*, each with a strong keel and long taper point, but no lateral ribs, differ totally from all the neighbouring species. The denomination of *supinus* would be peculiarly inapplicable for a plant the most erect of all its tribe ; and what I have from the late accurate and learned Professor Lachenal, and Mr. Davall, for the indubitable *J. supinus* of Mœnch, is my *uliginosus* β. So

we fortunately get rid of that name. *J. mutabilis, Cavan. Ic. v.* 3. 49. *t.* 296. *f.* 2, but not of Lamarck, is very like our *capitatus*; but is drawn, and distinctly described, with 6 *stamens*; and Cavanilles may safely be trusted in what he professes to have seen. The *calyx* moreover is not at all suitable to our plant. J. Bauhin's *J. foliatus minimus* may be referred to either, but to no other known species. Mr. Don's *supinus*, in my copy of his work, is evidently the common *uliginosus*, in a miserably starved condition; yet this brings him unconsciously, see *Fl. Dan. t.* 1099, nearer the truth than any body.

Dr. Solander, in his manuscripts, gave the apt name of *stellatus* to Portuguese specimens of this *Juncus*, gathered by Dr. Gray; but nothing can be better than *capitatus*, now, I trust, established beyond all uncertainty.

17. J. *biglumis*. Two-flowered Rush.

Stem erect, unbranched; leafy at the base. Leaves flat. Head solitary, of two unilateral flowers, surmounted by a leafy bractea.

J. biglumis. *Linn. Sp. Pl.* 467. *Fl. Lapp. ed.* 2. 88. *Montin in Am. Acad. v.* 2. 266. *t.* 3. *f.* 3. *Willd. v.* 2. 216. *Fl. Br.* 382. *Engl. Bot. v.* 13. *t.* 898. *Don H. Brit.* 8. *Bicheno Tr. of L. Soc. v.* 12. 320. *Lightf.* 1100. *Hook. Scot.* 106. *Fl. Dan. t.* 120.

About mountain rills, in the Highlands of Scotland, rare.

On Ben Lomond, and in Breadalbane. *Rev. Dr. Stuart.* On Ben Lawers in Breadalbane, and other Highland mountains. *Mr. Mackay.* Seldom found but on Ben Lawers. *Mr. G. Don.*

Perennial. *August.*

Root fibrous, *Stems* solitary, leafless, quite simple, from 2 to 4 inches high, round, or somewhat quadrangular and striated, at least when dry. *Leaves* several, all radical, erect, awl-shaped, flattened, slightly channelled, about half the height of the stem; sheathing, but not much dilated, at the base. No partitions, or joints, are perceptible externally. *Fl.* 2, terminal, one above another, and turned to one side, by which this species is always distinguishable from the 2-flowered variety of the following, as Dr. Stuart pointed out to me long ago, though many botanists have confounded them. *Bracteas* 2, broad and membranous; the uppermost with a leafy upright point, rising much above the flowers; the under short, deflexed and pointless. *Calyx-leaves* equal, elliptic-oblong, keeled, membranous at the edges. *Filam.* 6, capillary, longer than the calyx. *Anth.* short, twisted. *Caps.* longer than the calyx, abrupt; valves light brown, with black edges. *Seeds* oval, brown, pellucid, with a lateral, membranous, whitish, pointed *tunic*, lengthened out at each end.

The *bractea* does not "force the *fruit* to one side," for the *flowers* are always unilateral.

18. J. *triglumis*. Three-flowered Rush.

Stem erect, unbranched; leafy in the lower part. Leaves flat. Head solitary, terminal, of about three upright flowers, with elliptical bracteas.

J. triglumis. *Linn. Sp. Pl.* 467. *Fl. Lapp. ed.* 2. 88. *t.* 10. *f.* 5. *Willd. v.* 2. 216. *Fl. Br.* 382. *Engl. Bot. v.* 13. *t.* 899. *Rel. Rudb.* 24. *f. Lightf.* 186. *t.* 9. *f.* 2. *Hook. Scot.* 106. *Bicheno Tr. of L. Soc. v.* 12. 319. *Dicks. H. Sicc. fasc.* 2. 3. *Fl. Dan. t.* 132.

J. biglumis. *Dicks. H. Sicc. fasc.* 2. 2.

J. n. 1314. *Hall. Hist. v.* 2. 168.

J. exiguus montanus, mucrone carens. *Bauh. Pin.* 12. *Prodr.* 22. *Theatr.* 183. *Rudb. Elys. v.* 1. 103. *f.* 8.

Juncello accedens graminifolia plantula, capitulis armeriæ proliferæ. *Raii Syn. ed.* 2. 275. *ed.* 3. 430.

Schœnus ferrugineus. *Huds. ed.* 1. 14.

Gramen cyperoides minimum, caryophylli proliferi capitulo simplici squamato. *Moris. v.* 3. 245. *sect.* 8. *t.* 12. *f.* 40.

In alpine rivulets.

About the summits of the Scottish and Welsh mountains. At Borrodale, near Keswick, Cumberland; Mr. Robson. *With.* On Ben Lomond near the top, in great plenty.

Perennial. *July.*

Like the last in habit, but twice as large. *Roots* somewhat creeping. *Stems* solitary, from 3 to 6 inches high, round, smooth, naked, except one or two long-sheathed *leaves*, near the base. *Leaves* chiefly radical, much like those of *J. biglumis*. *Head* usually of 3 *flowers*, all erect and on a level, sometimes of 2, or 4, subtended by a pair of nearly equal, elliptical or ovate, spreading, brown, membranous *bracteas*, one of them very rarely tipped with a small leafy point: there is besides frequently a smaller interior *bractea*. *Calyx-leaves* equal, elliptic-oblong, keeled, membranous at the edges. *Stam.* longer than the calyx. *Caps.* still longer, rounded at the summit, chesnut-coloured. *Seeds* oval, with a membranous lateral *tunic*, extended in a point beyond each end, as in the foregoing.

Mr. Bicheno justly describes the *leaves* as internally cellular, but there is nothing of partitions, or articulations, to be discerned externally.

19. J. *castaneus*. Clustered Alpine Rush.

Stem unbranched, leafy. Leaves keeled, flat; sheathing at the base. Heads terminal, mostly in pairs, many-flowered, with leafy bracteas. Capsule twice the length of the calyx.

J. castaneus. *Fl. Br.* 383. *Engl. Bot. v.* 13. *t.* 900. *Bicheno Tr. of L. Soc. v.* 12. 321. *Hook. Scot.* 106. *Fl. Dan. t.* 1332.
J. Jacquini. *Sym. Syn.* 87. *Hull* 76.

In the Highlands of Scotland, on a micaceous soil ; as also in the North of England.
First found on Ben Challum, by the Rev. Dr. Stuart. *Bicheno.* On Ben Lawers. *Mr. Mackay.* In Fion glen, behind Craig Calliach, Breadalbane. *Mr. Borrer.* In the county of Durham. *Rev. Mr. Harriman.*
Perennial. *July.*
Root creeping, with lax runners. *Stems* solitary, erect, from 8 to 12 inches high, round, smooth ; leafy at the base, as well as towards the middle. *Leaves* principally on the stem, erect, from 2 to 4 inches long, smooth, keeled, flat at the sides, involute when dry ; cellular internally, with distant transverse partitions, but not really knotty or jointed ; convolute and sheathing at the base. *Heads* terminal, usually 2, one above the other, rarely solitary, each on a short thick stalk, within the sheathing base of its upright leafy *bractea. Interior bracteas* membranous, lanceolate, much the shortest. *Fl.* from 3 to 8 in each head, erect. *Calyx-leaves* elliptic-oblong, 3-ribbed, dark chocolate-coloured ; the 3 innermost pale and membranous at the extremity. *Filam.* not quite so long, with linear, yellow, finally twisted, *anthers. Style* stout, breaking off at a joint, above the base. *Stigmas* 3, brown, acute, downy, flat, at length spirally convoluted. *Caps.* elliptic-oblong, dark brown, triangular, twice the length of the calyx, rounded and pointed at the summit. *Seeds* oval, small, each enveloped in a pale *tunic,* greatly elongated, and pointed, at both ends.
The figure in *Engl. Bot.* is very correct, except wanting the ripe *fruit;* having no resemblance in *root, stem, leaves* or *flowers* to *J. Jacquini.*

20. J. *acutiflorus.* Sharp-flowered Jointed Rush.

Leaves apparently jointed, slightly compressed. Panicle repeatedly compound, forked. Calyx-leaves all bristle-pointed, shorter than the taper beak of the capsule.

J. acutiflorus. *Ehrh. Calam.* 66. *Davies Tr. of L. Soc. v.* 10. 13. *Comp.* 55. *Engl. Bot. v.* 30. *p.* 2143, *at the bottom. Bicheno Tr. of L. Soc. v.* 12. 323. *Hook. Scot.* 109.
J. sylvaticus. *Willd. Sp. Pl. v.* 2. 211.
J. articulatus. *Engl. Bot. v.* 4. *t.* 238. *Relh.* 143.
J. articulatus β. *Fl. Brit.* 379.
J. nemorosus. *Sibth.* 114.
J. nemorosus, folio articuloso. *Raii Syn.* 433.
Gramen junceum, folio articulato, sylvaticum. *Bauh. Pin.* 5. *Theatr.* 75. *f.* 76. *Scheuchz. Agr.* 334.

G. junceum articulatum palustre, erectum et elatius. *Moris. v.* 3. 227. *sect.* 8. *t.* 9. *f.* 1.
G. junceum sylvaticum. *Ger. Em.* 22. *f.*

In wet woods, and watery places, common.
Perennial. *June, July.*
Root somewhat creeping. *Stems* erect, straight, with from 4 to 6 joints, 2 or 3 feet high, slender, a little compressed, smooth, hollow, leafy; scaly at the base. *Leaves* 3 or 4 on each stem, alternate, distant, upright, cylindrical, somewhat compressed, taper-pointed, hollow, divided internally by numerous, transverse partitions, which give a jointed appearance, especially to the dried leaves. *Panicle* terminal, erect, of 2 or 3 principal branches, which are once or twice forked, and partly racemose, with numerous, sessile, lateral or terminal, round, rusty-coloured *heads* of *flowers*. *Bracteas* solitary, leafy, under the panicle, or its main branches; the *interior* ones smaller, membranous, taper-pointed; *innermost*, under each head, crowded, ovate, short and filmy. *Calyx-leaves* lanceolate, all bristle-pointed, and uniform, of a rusty brown. *Caps.* lanceolate, taper-pointed, acutely triangular, with concave sides, of the colour of the calyx, and but little longer, not very conspicuous. *Seeds* minute, elliptic-oblong, not tunicated.
Gerarde's figure seems to me a better representation of this than of the *obtusiflorus*. Our *acutiflorus* is probably to be met with in Switzerland, but I find no traces of it in Haller, nor in any collection from that country.

21. J. *lampocarpus*. Shining-fruited Jointed Rush.

Leaves apparently jointed, compressed. Panicle erect, compound, forked. Inner calyx-leaves bordered. Capsule ovate, coloured, highly polished, longer than the calyx.

J. lampocarpus. *Ehrh. Calam.* 126. *Davies Tr. of L. Soc. v.* 10. 13. *Comp.* 55. *Engl. Bot. v.* 30. *t.* 2143. *Bicheno Tr. of L. Soc. v.* 12. 325. *Hook. Scot.* 109.
J. articulatus. *Linn. Sp. Pl.* 465, *α*, *β*. *Willd. v.* 2. 211, *α*. *Fl. Br.* 379, *α*. *Huds.* 149, *α*. *With.* 347, *var.* 1. *Leers* 88, *α*. *t.* 13. *f.* 6.
J. compressus. *Relh. ed.* 1. 142. *Sibth.* 114. *Abbot* 79.
J. n. 1322. *Hall. Hist. v.* 2. 171.
J. ramulosus. *Gesn. Fasc.* 10. *t.* 4. *f.* 12.
J. foliis articulosis, floribus umbellatis. *Tourn. Inst.* 247. *Raii Syn.* 433.
J. foliaceus, capsulis triangulis. *Bauh. Hist. v.* 2. 521. *f.*
Arundo minima. *Dalech. Hist.* 1001. *f.*
Gramen junceum, folio articulato, aquaticum. *Bauh. Pin.* 5. *Prodr.* 12. *f, f. Theatr.* 76. *f. and* 77. *f. Scheuchz. Agr.* 331, 333.

G. junceum articulatum palustre humilius, utriculis frequentèr donatùm. *Moris. v.* 3. 227. *sect.* 8. *t.* 9. *f.* 2.
G. aquaticum. *Ger. Em.* 13. *f.*
G. aquaticum alterum. *Lob. Ic.* 12. *f.*

In boggy meadows, and watery places, frequent.
Perennial. *July, August.*
Root creeping. *Stems* erect, or ascending, 12 to 18 inches high, hollow, with a few internal partitions near the bottom only, and with 2, 3 or 4 joints; most leafy below. *Leaves* compressed, with numerous internal partitions, giving the same knotty or jointed appearance as in the preceding; their points a little recurved. *Panicle* more erect, its branches strong, elongated, so that the *heads* of *flowers* are remote, one above another, on each simple branch, with very few at the forks. *Fl.* and *capsules* larger than the last. *Bracteas* much the same. *Calyx-leaves* lanceolate, acute; 3 innermost rather blunter, of a deeper brown, with a more evident white membranous border. *Caps.* remarkably large, of a dark chocolate colour, highly polished, as if varnished, ovate- or elliptic- oblong, triangular, with a stout prominent point, extending much beyond the calyx. *Seeds* small, not tunicated.
In wet seasons, when the seeds are sparingly perfected, the stems throw out large tufts of leaves, as figured by Caspar Bauhin and others, and described by Scheuchzer, p. 333. By these probably the plant is increased. Mr. Davies remarks that such are never found on the preceding or following species.

22. J. *obtusiflorus*. Blunt-flowered Jointed Rush.

Leaves apparently jointed, cylindrical. Stem with internal partitions. Panicle repeatedly compound; branches divaricated and reflexed. Calyx-leaves obtuse, as long as the capsule.

J. obtusiflorus. *Ehrh. Calam.* 76. *Davies Tr. of L. Soc. v.* 10. 13. *Comp.* 55. *Engl. Bot. v.* 30. *t.* 2144. *Bicheno Tr. of L. Soc. v.* 12. 327.
J. articulatus β. *Fl. Br.* 379, *excluding the synonyms.*
J. articulatus var. 5. *With.* 347.
J. n. 1323. *Hall. Hist. v.* 2. 171, *excluding the synonyms.*
J. cum glumis albis; *Dood. Not. Dill. in Raii Syn. under n.* 9. 433.

In marshes, less common than the two last.
In Peckham field. *Doody.* North Wales. *Rev. H. Davies.* Norfolk. *Mr. Hugh Rose.* Near Forfar, rare. *Mr. David Don.*
Perennial. *August.*
Root somewhat creeping. *Plant* larger and much taller than the last. *Stem* and *leaves* round, not compressed; the latter rigid and pointed, almost pungent; both furnished with copious, internal, transverse partitions, not visible externally, except in a

dry state, and then in the leaves only, which are but 2 on the stem, none at the root. *Panicle* 3 or 4 times subdivided and forked, its ultimate branches bent backward. *Heads* numerous, but small, of 4 or 5 *flowers*. *Calyx-leaves* elliptic-oblong, concave, obtuse, pale brown, with a broad, white, membranous margin; the innermost rather the smallest, often with a rose-coloured hue, well noticed by Haller. *Caps.* roundish, or broadly obovate, pointed, triangular, of a light shining brown, scarcely so long as the calyx. *Seeds* very small, not tunicated.

Most botanists have confounded this with *J. acutiflorus*, but they are now sufficiently distinguished, nor can either be mistaken for *lampocarpus*, which, though the smallest plant, has much the largest *capsule*.

23. J. *polycephalus*. Many-headed Jointed Rush.

Leaves apparently jointed, awl-shaped, cylindrical. Panicle erect, twice or thrice forked, with nearly simple branches. Heads many-flowered. Calyx-leaves lanceolate, acute, rather shorter than the elliptic-ovate bluntish capsule.

J. polycephalus. *D. Don Mss. Hook. Scot.* 109.

In the Highlands of Scotland. *Mr. G. Don.*

Perennial.

Ramifications of the *panicle* very simple. *Heads* few, large, of from 5 to 8 spreading *flowers*, each on a short stalk. *Hooker.*

This description, except the acute *calyx*, answers well to *J. ustulatus* of Hoppe's Collection of Dried Grasses. I have seen no specimens.

199. LUCIOLA. Wood-rush.

Luzula. "*DeCand. Fr. v.* 3. 158. *Devaux in Journ. de Bot. v.* 1. 129." *Br. Prodr.* 591. *Bicheno Tr. of L. Soc. v.* 12. 329.

Juncoides. *Mich. Gen.* 41. *t.* 31.

Nat. Ord. see. *n.* 198.

Cal. inferior, of 6 oblong, acute, permanent leaves; 3 of them internal, and rather the smallest. *Cor.* none. *Filam.* capillary, very short, attached to the base of the calyx-leaves. *Anth.* oblong, erect, of 2 cells, bursting lengthwise. *Germ.* superior, triangular, of 1 cell, with rudiments of 3 seeds only. *Style* simple, thread-shaped, deciduous. *Stigmas* 3, tapering, downy, as long as the style, or longer. *Caps.* ovate, triangular, smooth, subtended by the permanent calyx, of 1 cell, and 3 rather horny valves, with a longitudinal ridge along the middle of each. *Seeds* 3, at the bottom of the capsule, erect,

roundish, with a tumid *crest*, various in shape and position.

Roots fibrous or creeping, perennial. *Stem* leafy, simple. *Leaves* grassy, more or less fringed with long irregular hairs; often serrated, callous at the point. *Panicle* many-flowered, cymose, or somewhat spiked. *Fl.* brownish, with 2 membranous close *bracteas* to each. *Caps.* generally shining.

The establishment of this genus, so different in habit from *Juncus*, and now so well determined by the character of its *capsule*, and the number as well as insertion of its *seeds*, can hardly be controverted. I only beg leave to make an indispensable correction in the orthography of the name. The hairy heads of flowers, wet with dew, and sparkling by moonlight, gave the elegant Italians an idea of their *lucciole*, or glow-worms; sometimes written *luzziole*, but this is a provincial corruption. Hence however John Bauhin got the name of *Gramen luzulæ*, or Glow-worm Grass, for he never called it *Luzula*, which would have been the same as actually calling it a Glow-worm. From a similar derivation, (*luceo*, to shine,) a Latin name, *Luciola*, has been given to the Adder's-tongue, *Ophioglossum*; whether from the shining hue of that plant, or rather perhaps from its resemblance in form to a lamp with its wick, is of no consequence. The name so applied by Gesner and Dodonæus, extant in Ambrosinus, and even in Ainsworth, is now superfluous for the *Ophioglossum*, and is in fact the Latin of *Luzula*, this latter being altogether corrupt, neither Latin nor good Italian.

1. L. *pilosa*. Broad-leaved Hairy Wood-rush.

Panicle cymose, widely spreading and reflexed. Flowers solitary. Capsule pointless. Crest of the seeds hooked.

Luzula pilosa. *Willd. Enum.* 393. *Bicheno Tr. of L. Soc.* 329. *t.* 9. *f.* 1. *Hook. Scot.* 110. *Forst. Tonbr.* 44.

Juncus pilosus. *Linn. Sp. Pl.* 468. *Willd. v.* 2. 216. *Fl. Br.* 384. *Engl. Bot. v.* 11. *t.* 736. *Curt. Lond. fasc.* 5. *t.* 25. *Leers* 90. *t.* 13. *f.* 10.

J. vernalis. *Ehrh. Calam.* 109. *Hoffm. Germ. for* 1800. 168.

J. n. 1325. *Hall. Hist. v.* 2. 172.

Gramen nemorosum hirsutum vulgare. *Raii Syn.* 416.

G. hirsutum latifolium majus. *Bauh. Pin.* 7. *Moris. v.* 3. 225. *sect.* 8. *t.* 9. *f.* 1.

G. hirsutum latifolium minus. *Scheuchz. Agr.* 315.

G. hirsutum nemorosum. *Ger. Em.* 19. *f. Lob Ic.* 16. *f?*
G. rore lucidum nemorense, sive Luzulæ. *Bauh. Hist. v.* 2. 492.

In shady groves, thickets, and on broken banks, among dead leaves, frequent.
Perennial. *March, April.*
Root fibrous, increasing by runners. *Stem* from 9 to 12 inches high, erect, round, slender, polished, leafy. *Leaves* linear-lanceolate, entire, sheathing at the base, of a bright shining green, many-ribbed, fringed with a few long, white, lax hairs, especially in an early state; the radical ones numerous and large. *Panicle* terminal, of numerous, unequal, capillary branches, spreading and reflexed in various directions, partly forked, partly in some degree racemose. *Fl.* terminal, lateral, and axillary, always solitary, and nearly sessile, except the terminal ones. *Bracteas* 2, close to each flower, unequal, ovate, brown, with membranous edges. *Calyx-leaves* ovate, acute, keeled; brown and striated at the back; white and membranous at the margin; the 3 inner ones rather the smallest. *Caps.* ovate with 3 angles, blunt, pointless, pale green, scarcely so long as the calyx. *Seeds* elliptic-oblong, large, with a terminal hooked *crest*, nearly of their own length.
Lobel's figure, above quoted, like that in Bauhin's *Theatrum*, 101, has the *panicle*, but not the *capsules* or *leaves*, of our *L. Forsteri*, which those authors might have seen, without distinguishing between these two species. Mr. Bicheno well remarks that the marginal hairs of the *leaves* are, when dry, twisted together in small parcels. The herbage is eaten by cattle, in the early spring only, when little else is to be had.
J. pilosus, Fl. Dan. t. 441, is too unlike every known species to be safely quoted for any.

2. L. *Forsteri.* Narrow-leaved Hairy Wood-rush.

Panicle cymose, erect. Flowers solitary. Capsule pointed. Crest of the seeds straight and obtuse.

Luzula Forsteri. *DeCand. Ic. Pl. Gall.* 1. *t.* 2. *Bicheno Tr. of L. Soc. v.* 12. 331. *t.* 9. *f.* 2. *Hook. Scot.* 110. *Lond. t.* 68. *Forst. Tonbr.* 44.
Juncus Forsteri. *Fl. Br.* 1395. *Engl. Bot. v.* 18. *t.* 1293.
Gramen pilosum, Luciola ab Italis dicta. *Gesn. Fasc.* 12. *t.* 6. *f.* 14; *excluding the synonyms and fig.* A.

In groves and thickets, especially on a calcareous or gravelly soil.
Perennial. *May.*
Root of many fibres. *Herb* like the last, but rather taller, and the *leaves* are much narrower, the upper ones, as Mr. Bicheno observes, being the largest. To the same accurate botanist we are also obliged for remarking an essential difference in the *crest* of the *seed*, which in the present species is shorter, and not hooked.

The *panicle* however affords sufficient marks of distinction, having upright, often corymbose, branches, and the *capsule* has pointed valves, rather more bordered or thickened at the edges.

3. L. *sylvatica*. Great Wood-rush.

Panicle cymose, doubly compound. Flowers and bracteas aggregate. Capsule pointed. Crest of the seeds obsolete.

Luzula sylvatica. *Bicheno Tr. of L. Soc. v.* 12. 331. *t.* 9. *f.* 3. *Forst. Tonbr.* 44.
L. maxima. *Willd. Enum.* 393. *Hook. Scot.* 110.
Juncus sylvaticus. *Huds.* 151. *Fl. Br.* 385. *Engl. Bot. v.* 11. *t.* 737. *Curt. Lond. fasc.* 5. *t.* 26. *Lightf.* 186.
J. pilosus δ. *Linn. Sp. Pl.* 468.
J. maximus. *Ehrh. Calam.* 136. *Willd. Sp. Pl. v.* 2. 217. *With.* 349.
J. latifolius. *Jacq. Col. v.* 3. 59.
J. n. 1324. *Hall. Hist. v.* 2. 171.
Gramen nemorosum hirsutum latifolium maximum. *Raii Syn.* 416.
G. hirsutum latifolium minus. *Bauh. Prodr.* 15. *f. Theatr.* 102. *f. not the description.* See also *Moris. sect.* 8. *t.* 9. *f.* 2.
G. hirsutum latifolium maximum, junceâ paniculâ. *Moris. v.* 3. 225. *sect.* 8. *t.* 9. *f.* 2.
G. nemorosum hirsutum latifolium majus. *Scheuchz. Agr.* 317.
G. Luzulæ maximum; also medium. *Bauh. Hist. v.* 2. 493. *f, f.*

In woods; and hilly, open, or bushy ground.
Perennial. *May, June.*
Root somewhat woody and creeping, with many fibres. *Stems* 12 or 18 inches high, leafy. *Leaves* of a paler green than either of the two preceding, with several principal ribs, but hairy in like manner at the edges; the radical ones numerous, much the largest, a span long, composing a very coarse, elastic and slippery turf; those on the stem small, with very long tubular sheaths. *Panicle* large, spreading horizontally, with slender, smooth, subdivided, corymbose branches. *Bracteas* white and filmy; at the subdivisions of the panicle sheathing; under the flowers somewhat imbricated. *Fl.* 2 or 3 together, smaller than in the two last, variegated with brown and white. *Calyx-leaves* lanceolate, pointed, concave, very thin and membranous at the edges. *Caps.* ovate, pointed, not half the size of the two last. *Seeds* elliptical, very small, with little or no appearance of a *crest*, as Mr. Bicheno has justly described them.
The oldest specific name, given by Hudson, who first determined this plant, ought, most assuredly, to be kept sacred.
There is a variety with a more dense *panicle*, which I have gathered in the woods at Roslin castle, and Mr. E. Forster near Highgate. This preserves its original appearance when cultivated, but I have found no specific distinction.

4. L. *campestris*. Field Wood-rush.

Panicle of three or four ovate, dense, partly stalked, clusters. Capsule obovate, obtuse, with a small point, shorter than the calyx. Seeds stalked, without a crest. Leaves flat.

Luzula campestris. *Br. Prodr.* 591. *Willd. Enum.* 394. *Bicheno Tr. of L. Soc. v.* 12. 334. *t.* 9. *f.* 4. *Hook. Scot.* 110. *Forst. Tonbr.* 44.
Juncus campestris. *Linn. Sp. Pl.* 468, *α*. *Willd. v.* 2. 221. *Fl. Br.* 385. *Engl. Bot. v.* 10. *t.* 672. *Curt. Lond. fasc.* 2. *t.* 19. *Dicks. H. Sicc. fasc.* 14. 17. *Leers* 91. *t.* 13. *f.* 5. *Ehrh. Calam.* 67.
J. n. 1330. *Hall. Hist. v.* 2. 174.
Juncoides villosum, capitulis psyllii. *Scheuchz. Agr.* 310.
Gramen exile hirsutum. *Raii Syn.* 416. *Ger. Em.* 17. *f.*
G. hirsutum, capitulis psyllii. *Bauh. Pin.* 7. *Prodr.* 15. *f. Theatr.* 103. *f. Moris. v.* 3. 225. *sect.* 8. *t.* 9. *f.* 4.
G. exile hirsutum cyperoides. *Lob. Ic.* 15. *f. Bauh. Hist. v.* 2. 493. *f.* 494.

In dry barren pastures frequent.
Perennial. *April, May.*
Root tough, scaly, creeping and tufted. *Stems* solitary, from 3 or 4 to 10 inches high, simple, straight, round, bearing about 2 *leaves*, which, like the more numerous radical ones, are flat, many-ribbed, dark green, extremely hairy at the margin, and especially at the top of the sheathing part. *Clusters* 3 or 4, one of them nearly sessile, the rest on spreading, lax, simple stalks, composing a small *panicle*; each ovate, or roundish, of from 4 to 6 or 8 crowded, nearly sessile, *flowers*, enveloped with membranous, partly brown, sheathing, wrinkled *bracteas*. *Calyx-leaves* lanceolate, pointed, dark brown, with a stout ribbed keel, and pale membranous margin. *Capsule* broadish-obovate, considerably shorter than the calyx, pale brown, obtuse and rounded at the extremity, with a small point originating in the base of the style. Mr. Bicheno's figure of the whole *capsule* is reversed. The *seeds* have no crest, except their short thick *stalks*, running up one side, be considered as such.

5. L. *congesta*. Many-headed Bog Wood-rush.

Panicle of numerous, roundish-ovate, dense, partly stalked, clusters. Capsule obovate, obtuse, with a small point, as long as the calyx. Seeds stalked, without a crest. Leaves flat, rough-edged.

Luzula congesta. "*DeCand. Fr. v.* 5. 305." *Forst. Tonbr.* 44.
L. campestris *β*. *Bicheno Tr. of L. Soc. v.* 12. 334. *Hook. Scot.* 110.
Juncus campestris *γ*. *Linn. Sp. Pl.* 469. *Willd. v.* 2. 221.
J. campestris *β*. *Fl. Br.* 386.

J. campestris multiflorus. *Ehrh. Calam.* 127 ?
J. liniger. *Purt. suppl.* 352. *t.* 9.
Gramen hirsutum elatius, paniculâ junceâ compactâ. *Raii Syn.* 416.
G. hirsutum, capitulo globoso. *Bauh. Pin.* 7. *Theatr.* 104. *f. Moris. sect.* 8. *t.* 9. *first fig. on the left.*
G. Luzulæ minus. *Bauh. Hist. v.* 2. 493. *f.*
G. capitulis globosis. *Ger. Em.* 18. *f.*

In marshy turfy ground, not uncommon.
Perennial. *June.*
The late Mr. Teesdale proved this plant to be unaltered by cultivation; and its natural place of growth, size, and whole appearance, have always seemed so strongly to indicate a distinct species from the common little *L. campestris*, that I am induced at length to concur with those botanists who have separated them. *L. congesta* has very erect *stems*, 18 inches high. The *leaves* are much narrower than the last, with a minute callous roughness all along their edges, scarcely discernible in that. The quantity of white hairs varies in both. The *panicle* of the present is certainly very different, consisting usually of 7 or 8, roundish or ovate, dense obtuse *clusters* or *spikes*, the first almost sessile, the rest on long, partly spreading, *stalks*. *Calyx* rather paler, more taper-pointed, scarcely extending beyond the *capsule*, which is of a rather narrower obovate form.
The figures of the old authors represent too small a number of *clusters*. Mr. Purton's plate is excellent. The plant figured in *Linn. Fl. Lapp. t.* 10. *f.* 2, the original specimen of which is in the Linnæan herbarium, has paler, smaller, more oblong *spikes*, rather than *clusters*; a more pointed *calyx*; narrower, less hairy, though rough-edged, *leaves*; and according to Dr. Wahlenberg, who calls it *Juncus pallescens*, in his *Fl. Lapp.* 87, a weak, compressed, nearly decumbent, *stem*. There is another species, closely allied to these, in Virginia, whose *leaves*, nearly as tall as the *stem*, are not so properly rough-edged as minutely and remotely serrated.

6. L. *spicata*. Spiked Wood-rush.

Panicle dense, compound, oblong, lobed, drooping. Capsule elliptical, with a small point. Crest of the seeds obsolete. Stem-leaves channelled.

Luzula spicata. *Bicheno Tr. of L. Soc. v.* 12. 337. *Hook. Scot.* 111.
Juncus spicatus. *Linn. Sp. Pl.* 469. *Fl. Lapp. n.* 125. *t.* 10. *f.* 4. *Willd. v.* 2. 222. *Fl. Br.* 386. *Engl. Bot. v.* 17. *t.* 1176. *Dicks. Dr. Pl.* 33. *H. Sicc. fasc.* 15. 11. *Fl. Dan. t.* 270. *Wahlenb. Lapp.* 88.
J. n. 1330 γ, erroneously marked β. *Hall. Hist. v.* 2. 174.
Juncoides n. 7. *Mich. Gen.* 42.

On the loftiest mountains of Scotland and Westmoreland.

On the grassy summit of Ben Lomond.—Found by Mr. Joseph Woods, on Fairfield, near Ambleside, Westmoreland. *Mr. Bicheno.*

Perennial. *July, August.*

Root of many tufted fibres. *Stem* solitary, a span high, erect, round, striated, slender, bearing 2 or 3 leaves. *Radical leaves* several, tufted, shortish, spreading, linear-lanceolate, nearly or quite flat, bearing a few long scattered hairs; *stem-leaves* channelled, upright, narrow, with long sheaths. *Panicle* with 1 or 2 erect, leafy *bracteas*, solitary, terminal, drooping, an inch or more in length, dark chocolate-coloured, ovate-oblong, obtuse, many-flowered, dense, compound, more or less lobed, especially at the base, intermixed with lanceolate, pointed, membranous, fringed or jagged, brown, interior *bracteas*, various in length. *Fl.* nearly sessile, crowded, erect. *Calyx-leaves* lanceolate, dark brown, with a slender point, rather longer than the *capsule*, which is elliptical rather than ovate, slightly pointed with the base of the *style*, of a varnished chocolate brown; the valves thickened at the edges, and each furnished with a central rib, or rudiment of a partition, but not more than in other species. *Seeds* elliptical, nearly sessile, with some occasional traces of a lateral line, but no decided crest.

Juncus pediformis of Villars, unknown in Britain, is indeed nearly akin to this plant, but much larger, paler, more lax in the *panicle*, and with broader *leaves*. The *capsule* is ovate, tapering into a sharp point. Wahlenberg associates it with the following, as a variety, but they appear very different.

7. L. *arcuata*. Curved Mountain Wood-rush.

Panicle somewhat umbellate, partly compound, with drooping branches. Heads globose, of few flowers. Bracteas membranous, fringed. Capsule elliptical. Leaves channelled.

Juncus arcuatus. *Wahlenb. Lapp.* 87. *t.* 4.

On the mountains of Scotland.

On the most stony and barren summits of Cairngorum, and others of the Grampian mountains. *Professor Hooker.*

Perennial. *July.*

Root rather woody; tufted and branched at the summit, invested with several ribbed scaly sheaths. *Stem* 3 or 4 inches high, erect, round, striated, bearing 1 or 2 leaves. *Radical leaves* numerous, tufted, incurved, linear, channelled, very slightly and partially hairy; *stem-leaves* somewhat flatter, with long reddish sheaths. *Fl.* about 3 together, in small, round, more or less stalked, *heads*, collected into a terminal *panicle*, whose somewhat umbellate, recurved branches, various in number and length, occasionally divided, are sheathed at their origin with one

or more thin, membranous, deeply fringed, *bracteas*. The more ovate pellucid *bracteas*, close to each *flower*, are also fringed. *Calyx-leaves* lanceolate, acute, brown, with membranous edges. *Caps.* shorter than the calyx, pale, elliptical rather than ovate, bluntish, with a small deciduous point, originating in the base of the *style*. *Seeds* with scarcely any crest.

200. BERBERIS. Barberry.

Linn. Gen. 175. *Juss.* 286. *Fl. Br.* 387. *Tourn. t.* 385. *Lam. t.* 253. *Gærtn. t.* 42.

Nat. Ord. *doubtful.* Linn. *Berberides.* Juss. 78. *Berberideæ.* DeCand. Syst. v. 2. ord. 8.

Cal. inferior, of 6 spreading, obovate, concave, coloured, deciduous leaves; the 3 outer ones smallest. *Pet.* 6, opposite to the calyx, and not much longer, roundish-ovate, concave, spreading, deciduous; the short claw of each bearing internally two oblong, more deeply coloured, probably nectariferous glands. *Filam.* linear, flattened, obtuse, opposite to the petals, but shorter, attached to the base of each. *Anth.* of 2 separate lobes, on the opposite edges of the summit of the filament, each opening by a valve, from the bottom upwards. *Germ.* superior, elliptic-oblong. *Style* none. *Stigma* single, orbicular, broader than the germen, acutely bordered, permanent. *Berry* oblong, obtuse, of 1 cell, pulpy, opening at the top. *Seeds* 2 or 3, oblong, cylindrical, erect, attached by short stalks to the lower part of the cell.

Stem shrubby. *Leaves* alternate, stalked, serrated; simple or pinnate; fringed or prickly at the edges; the earliest ones abortive, replaced by simple or divided thorns. *Fl.* yellow, in clusters from lateral leafy buds. *Berries* very acid. Juices of every part of the plant acid and astringent. The name is of Arabian origin.

1. B. *vulgaris.* Common Barberry.

Thorns three-cleft. Clusters pendulous. Leaves obovate-oblong, with bristly serratures. Petals entire.

B. vulgaris. *Linn. Sp. Pl.* 471. *Willd. v.* 2. 227. *Fl. Br.* 387. *Engl. Bot. v.* 1. *t.* 49. *Tracts* 165. *Woodv. suppl. t.* 234. *Hook. Scot.* 111. *DeCand. Syst. v.* 2. 5. *Fl. Dan. t.* 904. *Clus. Hist. v.* 1. 120. *f. Camer. Epit.* 86. *f.*

B. n. 828. *Hall. Hist. v.* 1. 369.

B. dumetorum. *Bauh. Pin.* 454. *Raii Syn.* 465. *Mill. Ic.* 42. *t.* 63.

Spina acida, sive Oxyacantha. *Ger. Em.* 1325. *f. Dod. Pempt.* 749. *f.* 750.

Oxyacantha. *Fuchs. Hist.* 542. *f.* 543.
Crespinus. *Matth. Valgr. v.* 1. 150. *f.*

In hedges, and on bushy calcareous hills.
Shrub. *May, June.*

A bushy smooth *shrub,* 2 or 3 feet high in a wild state, much taller in gardens. *Branches* flexible, alternate, angular, with a pale brown bark. *Leaves* deciduous, stalked, in tufts from lateral buds; on the young branches alternate; all somewhat obovate, more or less pointed, finely fringed. *Thorns* at the base of each leaf-bud, three-cleft, spreading, sharp; channelled underneath. *Clusters* solitary from the centre of each bud, stalked, simple, many-flowered, pendulous, longer than the leaves. *Fl.* bright yellow, with red glands; their scent faint and oppressive. *Berries* scarlet, powerfully but very gratefully acid; reported to be sometimes yellow, sometimes white, purple, or black. There is a cultivated variety without seeds.

The *stamens* have been found irritable in one small spot near the base, on the inner side, only, as explained by the writer of this in *Phil. Trans. v.* 78. 158, and in a vol. of *Tracts,* above quoted. Many botanists mistake this phænomenon. Jussieu speaks of the *filaments* as elastic, and embraced for a while by the glands; neither of which has any foundation. They contract by irritability, like the muscles of animals, and thus throw the *pollen* on the *stigma.* Dr. Darwin, on my authority, attributes something of sympathy to the filaments, which does not exist, nor have I indicated any thing of that nature.

Many agriculturists charge the Barberry-bush with causing barrenness, blight, or mildew, I cannot precisely say which, in wheat growing in its neighbourhood; which others as positively deny. Many highly respectable authorities, on each side, render me unable to form an opinion; nor am I aware of any hypothesis that could explain the fact.

201. FRANKENIA. Sea-heath.

Linn. Gen. 176. *Juss.* 303. *Fl. Br.* 387. *Lam. t.* 262.
Franca. *Mich. Gen.* 23. *t.* 22.

Nat. Ord. *Calycanthemæ.* Linn. 17. Akin to *Caryophylleæ.* Juss. 82.

Cal. inferior, of 1 leaf, somewhat cylindrical, with five angles, permanent; the border with 5 acute spreading teeth. *Pet.* 5; their claws the length of the calyx; limb of each obovate, or wedge-shaped, spreading. *Nect.* a channelled membrane, on the inner side of each claw. *Filam.* 6, the length of the calyx, thread-shaped, nearly equal. *Anth.* of 2 rounded lobes. *Germ.* superior, ovate-oblong, with 3 furrows. *Style* erect, cylindrical, nearly equal to the

stamens. *Stigmas* 3, oblong, obtuse, downy, spreading. *Caps.* oval, of 1 cell and 3 valves. *Seeds* numerous, ovate, minute.

Maritime decumbent plants, mostly shrubby, copiously branched. *Leaves* small, opposite, simple, entire. *Fl.* axillary or terminal, small, reddish.

1. F. *lævis.* Smooth Sea-heath.

Flowers solitary. Leaves linear, revolute, crowded; fringed at the base.

F. lævis. *Linn. Sp. Pl.* 473. *Willd. v.* 2. 241. *Fl. Br.* 387. *Engl. Bot. v.* 3. *t.* 205.

Franea maritima supina saxatilis glauca ericoides sempervirens, flore purpureo. *Mich. Gen.* 23. *t.* 22. *f.* 1.

Lychnis supina maritima, Ericæ facie. *Raii Syn.* 338.

Polygonum serpillifolium. *Ger. Em.* 566. *f.*

P. maritimum minus, foliolis serpilli. *Bauh. Pin.* 281.

P. fruticosum supinum ericoides cinericium, thymi folio hispanicum. *Barrel. Ic. t.* 714.

P. alterum, pusillo vermiculato serpilli folio. *Lob. Ic.* 422. *f.*

P. alterum, serpylli folio. *Dalech. Hist.* 1124. *f.*

Cali, sive Vermiculari marinæ, non dissimilis planta. *Bauh. Hist. v.* 3. 703. *f.*

Sea Heath. *Pet. H. Brit. t.* 10. *f.* 11.

In muddy salt marshes.

Chiefly on the eastern shores of England.

Perennial. *July.*

Root woody. *Stems* quite prostrate, forked, round, slightly downy, with leafy, partly ascending, branches. *Leaves* somewhat glaucous, about a quarter of an inch long, revolute; fringed at the base; convex and smooth above, accompanied by axillary leafy tufts, or short leafy branches. *Fl.* from the forks of the stem, partly terminal, solitary, sessile, flesh-coloured. *Nectary* a yellow scale, attached to the claw of each *petal.*

2. F. *pulverulenta.* Powdery Sea-heath.

Leaves obovate, abrupt; downy and somewhat powdery beneath.

F. pulverulenta. *Linn. Sp. Pl.* 474. *Willd. v.* 2. 243. *Fl. Br.* 388. *Engl. Bot. v.* 31. *t.* 2222. *Fl. Græc. v.* 4. 37. *t.* 344.

Franca maritima quadrifolia annua supina, chamæsyces folio et facie, flore ex albo purpurascente. *Mich. Gen.* 23.

Alsine maritima supina, foliis chamæsyces. *Tourn. Inst.* 244. *Dill. in Raii Syn.* 352.

Anthyllis maritima, chamæsyces similis. *Bauh. Pin.* 282.

A. valentina. *Clus. Hist. v.* 2. 186. *f. Ger. Em.* 566. *f. Lob. Ic.* 421. *f.*
Quadrifoglio annuo di Persia. *Zannon. Ist.* 164. *t.* 66.
Valentia Knot-grass. *Pet. H. Brit. t.* 10. *f.* 8.

On the sea coast of Sussex, very rare.
Found by Mr. Brewer on the Sussex coast. *Dillenius.* Between Bognor and Brighthelmston. *Huds.*
Annual. *July.*
Root fibrous. *Stems* numerous, prostrate, leafy, downy, branched from the very base, forked. *Leaves* opposite, or 4 together, on fringed stalks, single-ribbed, slightly revolute; smooth and green above; hoary, as if powdery, beneath. *Fl.* pale red, chiefly from the forks of the stem.

202. PEPLIS. Purslane.

Linn. Gen. 176. *Juss.* 333. *Fl. Br.* 389. *Lam. t.* 262. *Gærtn. t.* 51.
Portula. *Dill. Gen.* 133. *t.* 7.
Glaucoides. *Mich. Gen.* 21. *t.* 18. *f.* 1.

Nat. Ord. *Calycanthemæ.* Linn. 17. *Salicariæ.* Juss. 91.

Cal. inferior, of 1 leaf, bell-shaped, large, permanent, in 6, rather deep, acute segments, with as many intermediate plaits. *Pet.* 6, very minute, obovate, inserted into the throat of the calyx, between its segments. *Filam.* thread-shaped, incurved, shorter than the calyx, alternate with the petals. *Anth.* roundish. *Germ.* superior, globular, furrowed. *Style* very short, cylindrical. *Stigma* capitate, globose. *Caps.* globose, membranous, pellucid, of 2 cells, not bursting, with a transverse partition. *Seeds* numerous, minute, obtuse, triangular, inserted into the central column.

Herbaceous, with opposite or alternate, simple *leaves*, and axillary *flowers*.

1. P. *Portula.* Water Purslane.

Petals wanting, or scarcely visible. Leaves opposite, obovate, stalked.

P. Portula. *Linn. Sp. Pl.* 474. *Willd. v.* 2. 243. *Fl. Br.* 389. *Engl. Bot. v.* 17. *t.* 1211. *Curt. Lond. fasc.* 4. *t.* 27. *Hook. Scot.* 111. *Fl. Dan. t.* 64.
P. n. 856. *Hall. Hist. v.* 1. 379.
Portula. *Dill. Giss.* 120. *append.* 133. *t.* 7. *Raii Syn.* 368.
Glaucoides palustre, portulacæ folio, flore purpureo. *Mich. Gen.* 21. *t.* 18. *f.* 1.
Glaux aquatica, folio subrotundo. *Loes. Pruss.* 106. *t.* 20.
G. altera palustris repens subrotundo folio. *Bocc. Mus.* 107. *t.* 84. *f.* 1. *Vaill. Par.* 80. *t.* 15. *f.* 5.

Alsine rotundifolia, sive Portulaca aquatica. *Ger. Em.* 614. *f.*
A. palustris minor serpillifolia. *Bauh. Pin.* 251. *Prodr.* 118.
Anagallis serpillifolia aquatica. *Bauh. Hist. v.* 3. 372. *f.*

In watery places, on a gravelly, sandy, or heathy soil, frequent. Annual. *July, August.*

Root fibrous. *Stems* prostrate, floating, or creeping, a few inches in length, square, smooth, leafy. *Leaves* opposite, stalked, obovate, entire, smooth, hardly an inch long. *Fl.* small, axillary, solitary, nearly sessile, reddish. *Pet.* generally almost concealed by the *calyx*, very fugacious, often altogether wanting.

HEXANDRIA DIGYNIA.

203. OXYRIA. Mountain-sorrel.

"*Hill Veg. Syst. v.* 10. 24." *Gærtn. v.* 2. 180, *obs. Br. in Ross's Voy. ed.* 2. *v.* 2. 192. *Hook. Scot.* 99.

Nat. Ord. *Holeraceæ.* Linn. 12. *Polygoneæ.* Juss. 28. *N.* 204 the same.

Cal. inferior, of 2 opposite, lanceolate, spreading, permanent leaves. *Pet.* 2, alternate with the calyx-leaves, and larger, obovate, obtuse, erect, permanent. *Filam.* 6, awl-shaped, shorter than the calyx. *Anth.* erect, of 2 oblong lobes. *Germ.* superior, ovate, compressed, with membranous edges; cloven at the summit. *Styles* one from each point of the germen, very short, erect. *Stigmas* in many fine, tufted segments. *Seed* 1, naked, ovate-oblong, compressed, with a dilated, nearly orbicular, flat, vertical, membranous, cloven, undulated wing; *embryo* central, straight.

Herbaceous, perennial, acid, smooth. *Leaves* almost all radical, stalked, undivided, with radiating ribs. *Stem* panicled. *Fl.* whorled, on capillary stalks, green.

1. O. *reniformis.* Kidney-shaped Mountain-sorrel.

O. reniformis. *Hook. Scot.* 111.
Rumex digynus. *Linn. Sp. Pl.* 480. *Willd. v.* 2. 258. *Fl. Br.* 395.

Engl. Bot. v. 13. *t.* 910. *Huds.* 156. *With.* 357. *Lightf.* 190. *Fl. Dan. t.* 14. *Gærtn. v.* 2. 180. *t.* 119.

Rheum digynum. *Wahlenb. Lapp.* 101. *t.* 9. *f.* 2.

Lapathum n. 1595. *Hall. Hist. v.* 2. 273.

Acetosa rotundifolia repens Eboracensis, folio in medio deliquium patiente. *Moris. v.* 2. 583. *sect.* 5. *t.* 36. *f. last but one. Raii Syn.* 143.

A. repens Westmorlandica, cochleariæ foliis, apicibus nonnihil sinuatis. *Pluk. Almag.* 8. *Phyt. t.* 252. *f.* 2.

A. rotundifolia alpina. *Bauh. Pin.* 114. *Prodr.* 55.

A. rubra. *Martens Spitzberg.* 41. *Italian ed.* 98.

Welch Sorrel. *Pet. H. Brit. t.* 3. *f.* 4.

In mountain bogs, rills, and moist clefts of rocks.

In Wales, Scotland, and the north of England, about the summits of the loftiest mountains, plentiful.

Perennial. *June.*

Root strong, running deep into the ground, subdivided and tufted at the crown. *Stems* solitary, erect, a span high, roundish, striated, panicled, almost leafless. *Leaves* almost all radical, on longish *footstalks*, kidney-shaped, bright green, somewhat wavy, abrupt, with more or less of a central sinus; ribs all radiating from the insertion of the footstalk. *Panicle* erect, branched, twice as tall as the leaves. *Bracteas* sheathing, membranous. *Fl.* small, drooping, on capillary, whorled, simple stalks. *Anth.* and *stigm.* reddish, as well as the wing of the *seed.*

The whole herb is powerfully and gratefully acid, with some astringency. Sir John Hill, it seems, first separated this plant from *Rumex*, and gave it the above generic name. Sometimes, as Linnæus says, a blind hen meets with a grain of corn. Gærtner approved of the suggestion, though he did not follow it; but Mr. Brown has fully established the name and the genus. The intelligent Dr. Wahlenberg conceived our *Oxyria* to be a *Rheum*, deprived of one third of the due number of parts in the fructification, of which there are many similar examples. But though these two genera agree together in having a central, not lateral or marginal, *embryo*, in which they differ from *Rumex*; such a character, too obscure for common practical use, can only be taken as indicative of generic distinctions or agreements, here confirmed, and essentially marked, by the respective numbers of parts of the flower. By these *Rheum* differs from *Rumex* on the one hand, as *Oxyria* does on the other. *Rumex* is deprived of a third part of the *stamens* of *Rheum*, *Oxyria* of one third of the *styles* of each. Its winged *seed*, and central *embryo*, accord with *Rheum*; its distinct *calyx* and *corolla* with *Rumex*; for the Natural Order to which they all belong, is one in which the nature of these last parts is not uniform throughout. The radiating ribs of the *leaves* in *Oxyria*, pointed out by Dr. Wahlenberg, as evincing some affinity to *Rheum*, occur in several *Rumices*; witness *R. scutatus*, otherwise closely related to *Oxyria*.

HEXANDRIA TRIGYNIA.

204. RUMEX. Dock, and Sorrel.

Linn. Gen. 178. *Juss.* 82. *Fl. Br.* 390. *Lam. t.* 271. *Gærtn. t.* 119.

Nat. Ord. see *n.* 203.

Cal. inferior, of 3 obtuse, spreading, permanent leaves, more or less combined at the bottom. *Pet.* 3, ovate, larger than the calyx, but similar in hue, though thinner in texture, and more veiny, subsequently enlarged, converging round the seed, and permanent, bearing, in some species, a dorsal grain or tubercle. *Filam.* capillary, very short. *Anth.* erect, oblong, of 2 lobes. *Germ.* superior, triangular, rather turbinate; sometimes in a separate flower. *Styles* capillary, spreading, protruding between the petals. *Stigm.* large, in many fine tufted segments. *Peric.* none, except the enlarged, closed petals. *Seed* 1, triangular, polished, with 3 sharp edges; *embryo* oblong, at one side of the *albumen.*

Perennial, smooth, more or less astringent, or acid, *herbs*, rarely shrubby. *Leaves* oblong, wavy, seldom divided, mostly alternate and stalked. *Fl.* numerous, green, forming whorled terminal clusters; in some species monœcious, diœcious, or polygamous. Each partial *flower-stalk* has a joint near the base.

* *Flowers all perfect.*

1. R. *sanguineus.* Bloody-veined Dock. β. Green-veined Dock.

Permanent petals entire, oblong, one of them at least tuberculated. Leaves lanceolate; somewhat heart-shaped.

R. sanguineus. *Linn. Sp. Pl.* 476. *Willd. v.* 2. 250. *Fl. Br.* 390. *Engl. Bot. v.* 22. *t.* 1533. *Hook. Scot.* 112. *Ehrh. Pl. Off.* 153. *Winch Guide v.* 1. 34.

Lapathum folio acuto rubente. *Bauh. Pin.* 115. *Raii Syn.* 142. *Moris. v.* 2. 579.

L. sanguineum. *Munt. Brit. t.* 113. *Bauh. Hist. v.* 2. 988. *f.* 989.

L. sativum sanguineum. *Ger. Em.* 390. *f.*

L. rubens. *Dod. Pempt.* 650. *f. Camer. Epit.* 229. *f.*

Blood-veined Dock. *Pet. H. Brit. t.* 2. *f.* 5.

β. viridis. *Sibth.* 118. *Fl. Br.* 390.

Rumex Nemolapathum. *Ehrh. Phytoph.* 94. *Linn. suppl.* 212. *Willd. Sp. Pl. v.* 2. 252.
R. acutus β. *Huds.* 155.
Lapathum viride. *Dill. in Raii Syn.* 141.
Bloodless Dock. *Pet. H. Brit. t.* 2. *f.* 6.

In shady places, and by road sides.
In woody situations about Hampstead. *Merret.* Near Maidstone. *Huds.* On Headington hill, near Oxford. *Sibth.* In Kingston wood, Cambridgeshire. *Relh.* In the county of Durham. *Winch.* At Lowestoft, Suffolk, and about Bristol.
β is very common in woods and other dry shady places.
Perennial. *July.*
Root tap-shaped, black; internally of a dull red. *Stem* 2 or 3 feet high, erect, branched, angular, leafy, smooth, reddish. *Leaves* all stalked, lanceolate, acute, smooth, veiny, slightly crisped at the edges; the radical ones largest, heart-shaped at the base. *Clusters* terminal, long, a little drooping, formed of numerous, not very distant, whorls, of pendulous green *flowers;* some of the lower whorls accompanied by small solitary leaves. *Cal.* quite entire, as well as the *petals.* The latter become oblong, converging, one or more of them bearing at the back a large red tubercle. *Seed* small, brown, polished, with 3 prominent bluntish angles, and deep intermediate furrows.
The *footstalks* and veins of the *leaves* abound with a fine deep crimson juice, wanting in the far more common variety β, whose herbage is of a peculiarly bright and pleasant green. Curtis has certainly confounded this with his description of *R. acutus. fasc.* 3. *t.* 21.

2. R. *crispus.* Curled Dock.

Permanent petals ovate, entire, all tuberculated. Leaves lanceolate, wavy, acute.

R. crispus. *Linn. Sp. Pl.* 476. *Willd. v.* 2. 251. *Fl. Br.* 391. *Engl. Bot. v.* 28. *t.* 1998. *Curt. Lond. fasc.* 2. *t.* 20. *Hook. Scot.* 112.
Lapathum n. 1589. *Hall. Hist. v.* 2. 271.
L. folio acuto crispo. *Raii Syn.* 141.
L. longifolium crispum. *Munt. Brit. t.* 104.
Curled Sharp Dock. *Pet. H. Brit. t.* 2. *f.* 2.

In waste ground, pastures, and by road sides, common.
Perennial. *June, July.*
Root tapering, yellowish. *Stem* 2 or 3 feet high, angular, furrowed, somewhat zigzag, smooth to the touch, panicled, leafy. *Leaves* lanceolate, acute, strongly undulated and crisped at the edges, smooth, of a lightish green; the radical ones on long stalks; the uppermost narrower, and nearly sessile. *Clusters* of numerous, rather crowded, tufts, or whorls, of drooping pale green *flowers;* in the lower part leafy. *Petals* always much larger

than the *calyx*, veiny, waved, each bearing a large, ovate, brown tubercle. *Seed* contracted at each end, with 3 blunt or tumid angles, larger than the foregoing.

A very troublesome and unprofitable weed.

3. R. *acutus*. Sharp Dock.

Permanent petals oblong, obscurely toothed, all tuberculated. Leaves oblong-heart-shaped, pointed. Clusters leafy.

R. acutus. *Linn. Sp. Pl.* 478. *Willd. v.* 2. 353. *Fl. Br.* 391. *Engl. Bot. v.* 11. *t.* 724. *Curt. Lond. fasc.* 3. *t.* 21, *the figure at least. Hook. Scot.* 112 ?

R. paludosus. *With.* 354, by the descr.

Lapathum n. 1590. *Hall. Hist. v.* 2. 271.

L. acutum. *Raii Syn.* 142.

L. acutum, sive Oxylapathum. *Bauh. Hist. v.* 2. 983. *f.* 984 ?

L. aquaticum minus. *Bauh. Pin.* 116. *Bauh. Hist. v.* 2. 987. *f.*

Smooth Sharp Dock. *Pet. H. Brit. t.* 2. *f.* 3.

β. Lapathum acutum minimum. *Dill. in Raii Syn.* 141. *Bauh. Hist. v.* 2. 985. *f.* *Lob. Ic.* 284. *f.*

Small Sharp Dock. *Pet. H. Brit. t.* 2. *f.* 4.

In low meadows, and watery places, not uncommon.

Perennial. *July.*

Root blackish, rather slender. *Stem* angular, furrowed, smooth, leafy, alternately branched, a little zigzag, sometimes purplish, about 2 feet high, somewhat reclining. *Leaves* stalked, flat; the lowermost heart-shaped at the base; the upper ones copious, small and narrow. *Branches* lax, elongated, bearing numerous distant whorls, mostly accompanied by leaves. *Petals* rarely and sparingly toothed at the base, oblong, each constantly bearing a large tubercle, at first red, subsequently brown. *Seed* small, ovate, acute, with 3 prominent, obtuse angles.

Sometimes the *flowers* are partly separated, and the late Mr. Sowerby detected 12 *stamens* in some of the barren ones.

Authors appear not yet to understand this species, which is totally different from the bright-green variety of *R. sanguineus*, and always grows in watery situations.

4. R. *obtusifolius*. Broad-leaved Dock.

Permanent petals toothed; one principally tuberculated. Radical leaves heart-shaped, obtuse. Stem roughish.

R. obtusifolius. *Linn. Sp. Pl.* 478. *Willd. v.* 2. 254. *Fl. Br.* 392. *Engl. Bot. v.* 28. *t.* 1999. *Curt. Lond. fasc.* 3. *t.* 22. *Hook. Scot.* 113.

Lapathum n. 1592. *Hall. Hist. v.* 2. 272.

L. vulgare, folio obtuso. *Raii Syn.* 141.

L. sylvestre, folio minùs acuto. *Ger. Em.* 388, *f. Lob. Ic.* 285. *f.*
L. vulgare album, folio subrotundo. *Munt. Brit. t.* 68, bad.
Lapathum. *Camer. Epit.* 228. *f.*
Broad Dock. *Pet. H. Brit. t.* 2. *f.* 9.

In waste ground, pastures, and by road sides, very common.
Perennial. *July, August.*

Root black, many-headed; yellowish within. *Stems* a yard high, erect, branched, round, furrowed, leafy, rough chiefly in the upper part. *Radical leaves* very large, stalked, deep green, veiny, heart-shaped, more or less blunt; the rest narrower, more pointed, on shorter stalks; all crenate and crisped in some degree. *Clusters* long, of numerous, many-flowered whorls, of which the lower ones are most distant, and leafy. *Pet.* large, oblong, obtuse, veiny; subsequently furnished with 3 sharp teeth at each side, one of them also bearing a brown or reddish tubercle, of a smaller proportion than in most species. *Seed* rather large, acute, with 3 sharp angles.

This rank and troublesome weed can be conquered only by stubbing up the root. Mowing is to little purpose.

5. R. *pulcher*. Fiddle Dock.

Permanent petals toothed; one principally tuberculated. Radical leaves fiddle-shaped. Stem smooth, straggling.

R. pulcher. *Linn. Sp. Pl.* 477. *Willd. v.* 2. 254. *Fl. Br.* 393. *Engl. Bot. v.* 22. *t.* 1576. *Hook. Scot.* 113.
Lapathum n. 1593. *Hall. Hist. v.* 2. 272.
L. pulchrum Bononiense sinuatum. *Bauh. Hist. v.* 2. 988. *f. Raii Syn.* 142.
L. ramis procumbentibus, seminis involucro dentato, foliis inferioribus fidium instar. *Moris. v.* 2. 580. *sect.* 5. *t.* 27. *f.* 13.
Fiddle Dock. *Pet. H. Brit. t.* 2. *f.* 10.

In pastures, church-yards, and dry waste gravelly ground.
Perennial. *August.*

Root tapering. *Stems* spreading, straggling, often procumbent, much branched, striated, smooth, leafy. *Radical leaves* on long footstalks, oblong, obtuse, slightly notched, contracted more or less about the middle, so as to resemble a fiddle or lute. *Stem-leaves* very numerous, alternate, small, lanceolate, undivided, accompanying the numerous whorls of *flowers*. *Pet.* much enlarged after flowering, deeply and sharply toothed throughout, each bearing an oblong reddish tubercle, which in one of them is commonly larger than the rest. *Seed* polished, with very sharp angles.

6. R. *maritimus*. Golden Dock.

Permanent petals triangular, tuberculated, fringed with taper teeth. Leaves linear. Whorls crowded.

R. maritimus. *Linn. Sp. Pl.* 478. *Willd. v.* 2. 253. *Fl. Br.* 393. *Engl. Bot. v.* 11. *t.* 725. *Hook. Scot.* 113. *Fl. Dan. t.* 1208.
R. aureus. *With.* 356. *Hull* 78. *Abbot* 81.
Lapathum folio acuto, flore aureo. *Bauh. Pin.* 115. *Raii Syn.* 142.
L. sylvestre, quartum genus. *Dalech. Hist.* 603. *f.*
L. anthoxanthum. *Bauh. Hist. v.* 2. 987. *f.* 988.
Bur Gold Dock. *Pet. H. Brit. t.* 2. *f.* 8.

In marshes, especially near the sea.
Perennial. *July, August.*
Root with many whorled fibres. *Stem* branched, leafy, angular, furrowed, often zigzag, sometimes of a tawny red, from 1 to 2 feet high. *Leaves* stalked, linear, acute, entire, flat, not undulated. *Fl.* very numerous, in dense leafy whorls, very near together, and finally confluent, assuming, like the whole plant, a rich tawny-golden hue, very conspicuous. The *petals*, as the *seeds* ripen, become dilated, triangular, fringed at each side with about 4 bristle-like teeth, exceeding their own length, and spreading widely, giving the whole dense cluster a hairy appearance. Each *petal* bears a large, tawny, very prominent, oblong, not globular, tubercle. The *seeds* are acutely triangular, very small.

7. R. *palustris*. Yellow Marsh Dock.

Permanent petals lanceolate, tuberculated, toothed at the base. Leaves linear-lanceolate. Whorls distinct.

R. palustris. *Fl. Br.* 394. *Engl. Bot. v.* 27. *t.* 1932. *Galp. Comp.* 30. *Hook. Scot.* 113.
R. maritimus. *Huds.* 155 *β*. *With.* 356. *Hull* 78. *Curt. Lond. fasc.* 3. *t.* 23. *Ehrh. Herb.* 74.
Lapathum aureum. *Dill. in Raii Syn.* 142.
L. aquaticum, Luteolæ folio. *Bocc. Mus. t.* 104.
L. aquaticum, angustissimo acuminato folio. *Ibid.* 143.
Hydrolapathum minus. *Lob. Ic.* 286. *f. Ger. Em.* 389. *f.*
Gold Dock. *Pet. H. Brit. t.* 2. *f.* 7.

In marshes, ditches, and waste boggy ground, remote from the sea.
About London in several places. *Dill. Curt.* By Acle dam, Norfolk. *Mr. Pitchford.* At Saham, Norfolk.
Perennial. *July, August.*
Root tapering, red internally, with whorled fibres. *Stem* 2 feet high, or more, nearly upright, stout, branched, furrowed, leafy, roughish, sometimes tinged with red. *Leaves* stalked, linear-lanceolate, acute, slightly crisped at the edges; the radical ones large, a span long, ovate at the base; the rest much smaller; those which accompany most of the flowers very small and narrow. *Whorls* numerous, many-flowered, at first considerably distant; but those of the lateral branches, at least, become crowded as the seeds ripen. In this state the *petals* are

elongated, bluntly lanceolate; in their upper half quite entire; in the lower furnished at each side with 3 taper teeth, much shorter than the *petal* itself; the disk of each bearing an oblong, reddish, prominent tubercle. The *whorls* when in fruit assume a tawny aspect, but far short of the golden hue of the last. Many eminent botanists have confounded these two species, though the form of their *petals*, when in seed, is no less permanently distinct, than the number, shape, length and situation of the teeth which border them. There are several foreign species nearly allied to them, but equally distinct.

8. R. *Hydrolapathum.* Great Water Dock.

Permanent petals ovate-oblong, nearly entire, unequally tuberculated. Leaves lanceolate, acute at each end. Whorls rather crowded, almost entirely leafless.

R. Hydrolapathum. *Huds.* 154. *Willd. v.* 2. 251. *With.* 355. *Sibth.* 118. *Abbot* 82. *Woodv. Med. Bot. t.* 178. *Purt. v.* 1. 185. *v.* 3. 253.

R. aquaticus. *Fl. Br.* 394. *Engl. Bot. v.* 30. *t.* 2104. *Hull ed.* 2. *v.* 1. 102. *Lightf.* 190. *Hook. Scot.* 112. *Relh.* 144. *Ehrh. Pl. Off.* 114.

R. Britannica. *Huds. ed.* 1. 135.

Lapathum n. 1588. *Hall. Hist. v.* 2. 271.

L. maximum aquaticum, sive Hydrolapathum. *Raii Syn.* 140. *Bauh. Hist. v.* 2. 986. *f.* 987.

Great Water Dock. *Pet. H. Brit. t.* 2. *f.* 1.

In marshland ditches, stagnant waters, and the margins of great rivers, abundantly.

Perennial. *July, August.*

Root large and tuberous, with numerous long hairy fibres. *Stem* from 4 to 6 feet high, erect, stout, hollow, cylindrical, with numerous deep furrows, and strong, intermediate, smooth, reddish ridges, branched, leafy, copiously panicled. *Leaves* stalked, lanceolate, acute, smooth, slightly glaucous, coriaceous, entire, but minutely crisped at the edges; tapering, not heart-shaped, at the base; the lowermost often near 2 feet in length; the uppermost small and narrow, almost linear, accompanying 2 or 3 of the lower whorls. Branches of the *panicle* a little zigzag, beset with numerous, close, many-flowered *whorls*, most of them leafless. *Fl.* drooping, on stalks of very unequal lengths, swelling at the top, and jointed, like all the foregoing, towards the base. *Petals* in every stage much longer than the *calyx*, finally ovate-oblong, obtuse, reticulated with prominent veins, for the most part entire at the margin, though several of them are wavy or notched, hardly toothed; one or two of them bear an ovate-oblong, reddish tubercle, and the third a smaller one; but the tubercles, though generally present on every petal, vary remarkably in size and shape. *Seed* ovate, acute, with thin sharp angles.

The true *R. aquaticus* of Linnæus, a Swedish plant, which is *R. acutus* of *Ehrh. Pl. Off.* 104, and to which the synonyms of Lobel, Gerarde and Camerarius, quoted in *Fl. Brit.* belong, so nearly resembles this plant, that I have hitherto confounded them, supposing the absence or presence of tubercles to be variable. Linnæus had already fallen into the same error. A more strict scrutiny has proved them distinct, and justified Mr. Hudson in establishing the present species, whose very astringent root has been celebrated as a cure for the scurvy. The real *aquaticus* has its leaves heart-shaped at the base, and the permanent *petals* are broadly ovate, more finely veined, a little toothed, all entirely destitute of tubercles. This is well figured in *Camer. Epit.* 232 ; *Lob. Ic.* 285. *f.* 2 ; *Ger. Em.* 389. *f.* 1 ; and *Dalech. Hist.* 604. *f.* 3.

R. paludosus, Huds. 154, still remains unascertained.

** *Flowers separated.*

9. R. *Acetosa.* Common Sorrel.

Flowers diœcious. Leaves oblong, arrow-shaped. Permanent petals tuberculated.

R. Acetosa. *Linn. Sp. Pl.* 481. *Willd. v.* 2. 260. *Fl. Br.* 396. *Engl. Bot. v.* 2. *t.* 127. *Woodv. Med. Bot. t.* 69. *Hook. Scot.* 113.
Lapathum n. 1597. *Hall. Hist. v.* 2. 274.
L. acetosum vulgare. *Raii Syn.* 143.
Oxalis. *Fuchs. Hist.* 464. *f.*
O. sive Acetosa. *Matth. Valgr. v.* 1. 405. *f.* *Ger. Em.* 396. *f.*
O. vulgaris. *Bauh. Hist. v.* 2. 989. *f.* 990.
O. major. *Camer. Epit.* 230. *f.*
Acetosa. *Brunf. Herb. v.* 2. 68. *f.*
A. pratensis. *Bauh. Pin.* 114.
β. A. montana maxima. *Bauh. Pin.* 114. *Dill. in Raii Syn.* 143.
Oxalis sylvatica maxima. *Bauh. Hist. v.* 2. 990.

In meadows and pastures, common.
Perennial. *June.*

Root long and tapering, astringent, somewhat woody. *Herb* smooth, powerfully and agreeably acid. *Stem* from 1 to 2 feet high, erect, simple, leafy, striated. *Lower leaves* stalked, somewhat ovate ; arrow-shaped, with 2 lateral teeth ; *upper* sessile, more oblong and narrower. *Stipula* interior, tubular, membranous, fringed. *Clusters* erect, compound, whorled, leafless. *Barren fl.* green, with a reddish tinge. *Pet.* ovate, rather larger than the *calyx*. *Anth.* pale yellow. *Fertile fl.* on a separate plant, rather redder. *Cal.* at length reflexed. *Permanent pet.* ovate, obtuse, red, entire, each bearing a pale oblong tubercle.

If Dillenius be correct in the synonyms which he applies to our β, found by Mr. Llwyd in Merionethshire, that supposed variety is

a very distinct species, Haller's n. 1598, *R. arifolius* of Allioni, if not of Willdenow, whose *petals* are orbicular-heart-shaped, destitute of tubercles. The whole plant is twice the size of the common *R. Acetosa*, with divaricated lobes to the *leaves*. Welsh specimens require to be examined. It is reported that several species have, in Germany, been confounded under the present; but I know not on what their distinctions depend, nor whether we possess more than one in Britain. Professor Hooker appears to describe a different plant from mine.

10. R. *Acetosella*. Sheep's Sorrel.

Flowers dicœcious. Leaves lanceolate, hastate. Permanent petals without tubercles.

R. Acetosella. *Linn. Sp. Pl.* 481. *Willd. v.* 2. 260. *Fl. Br.* 396. *Engl. Bot. v.* 24. *t.* 1674. *Curt. Lond. fasc.* 5. *t.* 29. *Hook. Scot.* 113. *Ehrh. Pl. Off.* 404.
Lapathum n. 1596. *Hall. Hist. v.* 2. 274.
L. acetosum repens lanceolatum. *Raii Syn.* 143.
Oxalis sive Acetosa minor. *Matth. Valgr. v.* 1. 406. *f.* *Camer. Epit.* 231. *f.*
O. tenuifolia. *Ger. Em.* 397. *f.*
O. minor. *Ibid.* 398. *f.*
O. tenuifolia sinuata vervecina. *Lob. Ic.* 291. *f.*
O. parva auriculata repens. *Bauh. Hist. v.* 2. 992. *f.*

In dry gravelly pastures and fields, abundantly.
Perennial. *June, July.*
Not half the size of the last. *Roots* creeping. *Stems* wavy, branched, slender, leafy, often decumbent. *Leaves* more or less stalked; the *lower* ones hastate, with narrow spreading lobes, entire; *upper* for the most part simply lanceolate; in autumn they all turn red. *Fl.* small, separated, on different roots, in numerous, whorled, leafless *clusters*. *Pet.* oblong, entire, all destitute of tubercles. *Seed* light brown, polished, with 3 blunt angles. This herb is acid, with some astringency, like the preceding, but its much smaller bulk causes it to be generally neglected.

205. TOFIELDIA. Scottish Asphodel.

Huds. 157. *Fl. Br.* 397. *Tr. of L. Soc. v.* 12. 238. *DeCand. Fr. v.* 3. 193.
Anthericum. *Linn. Gen. ed.* 1. 106.
Narthecium. *Juss.* 47. *Lam. t.* 268.

Nat. Ord. *Coronariæ*. Linn. 10. *Asphodeli*. Juss. 16. *Melanthaceæ*. Br. Pr. 272. Hook. Scot. 182.

Cal. inferior, small, of 1 leaf, membranous, three-cleft, permanent. *Pet.* 6, oblong, concave, equal, spreading, per-

manent, many times longer than the calyx. *Filam.* opposite to the petals, awl-shaped, simple, smooth, the length of the corolla. *Anth.* incumbent, roundish-heart-shaped. *Germens* 3, superior, converging, pointed, terminating in 3 very short, vertical, distant *styles*. *Stigmas* capitate. *Caps.* 3, tumid, keeled, membranous, connected at the base, each of 1 cell and 2 valves, bursting chiefly at the inner edge. *Seeds* numerous, elliptic-oblong, angular, attached to the inner margins of the valves, at each side.

Herbaceous, perennial, with sword-shaped *leaves;* an almost naked *stem;* and capitate, spiked or clustered, green or yellow, inodorous *flowers*. Six species are now described in *Tr. of L. Soc.*

1. T. *palustris*. Marsh Scottish Asphodel.

Flowers in an ovate head. Stem smooth, thread-shaped, leafless. Petals obovate, obtuse. Germens roundish.

T. palustris. *Huds.* 157. *Fl. Br.* 397, *excluding all the synonyms but the* 1*st*, 2*d*, *and* 8*th*. *Engl. Bot. v.* 8. *t.* 536. *Hook. Scot.* 114. *Lond. t.* 100. *Winch Guide v.* 1. 35.

T. borealis. *Wahlenb. Lapp.* 89.

Anthericum calyculatum. *Linn. Sp. Pl.* 447. *Fl. Lapp. ed.* 2. 106. *t.* 10. *f.* 3. *Lightf.* 181. *t.* 8. *f.* 2. *Dicks. H. Sicc. fasc.* 13. 11. *Fl. Dan. t.* 36.

Helonias borealis. *Willd. Sp. Pl. v.* 2. 274, with great confusion of syn.

Phalangium Scoticum palustre minimum, iridis folio. *Raii Syn.* 375. *Tourn. Inst.* 369.

In the black boggy margins of pools and rills, on the mountains of Scotland, the north of England, and Ireland.

Common in the Highlands of Scotland. Sent to Professor Hooker, from near Middleton in Teesdale, Durham, by the Rev. J. Dalton. I have it also from the Rev. J. Harriman.

Perennial. *August.*

Root a little woody, with many long fibres. *Herb* smooth. *Leaves* sword-shaped, ribbed, incurved at the point, about 2 inches long, in two-ranked radical tufts. *Stem* solitary, 4 or 5 inches high, bearing a small oblong *spike* or *head* of greenish-white *flowers*.

206. SCHEUCHZERIA. Scheuchzeria.

Linn. Gen. 178. *Juss.* 46. *Lam. t.* 268.

Nat. Ord. *Tripetaloideæ*. Linn. 5. *Junci*. Juss. 13. *N.* 207 the same.

Cal. none, except the corolla be taken for such. *Pet.* 6, in-

ferior, oblong, acute, recurved, firm, permanent. *Filam.* capillary, lax, opposite to the petals and not so long. *Anth.* terminal, longer than the filaments, dependent, linear, flattened, of 2 cells, opening at the inner side, by 2 longitudinal, parallel fissures. *Germens* 3, superior, ovate, compressed, nearly the length of the petals. *Styles* none. *Stigmas* lateral, oblong, obtuse, at the outer margin of each germen. *Caps.* 3, roundish, compressed, pointed, inflated, spreading, each of 1 cell and 2 valves. *Seeds* solitary, oblong.

Root creeping. *Herbage* smooth. *Stem* leafy, simply racemose. *Leaves* semicylindrical, sheathing. *Fl.* of a brownish green. Only 1 species known.

1. S. *palustris*. Marsh Scheuchzeria.

S. palustris. *Linn. Sp. Pl.* 482. *Fl. Lapp. ed.* 2. 103. *t.* 10. *f.* 1. *Willd. v.* 2. 263. *Engl. Bot. v.* 26. *t.* 1801. *Comp.* 57. *Don H. Br.* 208. *Fl. Dan. t.* 76. *Ehrh. Phyt.* 24. *Roth Germ. v.* 1. 159. *v.* 2. *p.* 1. 419.

S. n. 1310. *Hall. Hist. v.* 2. 166.

Juncus floridus minor. *Bauh. Pin.* 12. *Prodr.* 23. *Theatr.* 190.

Juncoidi affinis palustris. *Scheuchz. Agr.* 336.

Gramen junceum aquaticum, semine racemoso. *Loes. Pruss.* 114. *t.* 28.

In wet spongy mountain bogs, very rare.

Found in Lakeby Car, near Borough-bridge, Yorkshire, in 1807, by the Rev. J. Dalton ; nor has it been observed in any other spot in Britain.

Perennial. *June.*

Root long, creeping, tough, with a lax, white and shining cuticle. *Stems* erect, wavy, simple, a span high, round and smooth. *Leaves* few, erect, alternate, distant, semicylindrical, obtuse, with a terminal pore ; spongy within ; sheathing and membranous at the base. *Fl.* about 5, in a terminal cluster, seldom quite so tall as the leaves. *Bracteas* solitary, lanceolate, membranous, with a leafy point. *Capsules* the size of a pea, coriaceous, tumid, wrinkled.

A very rare plant in Switzerland, more plentiful in Sweden, Denmark, Norway and Lapland.

207. TRIGLOCHIN. Arrow-grass.

Linn. Gen. 179. *Juss.* 47. *Fl. Br.* 398. *Lam. t.* 270. *Gærtn. t.* 84. Juncago. *Tourn. t.* 142. *Mich. Gen.* 43. *t.* 31.

Nat. Ord. see *n.* 206.

Cal. inferior, of 3 roundish, obtuse, concave, deciduous leaves. *Pet.* 3, ovate, concave, bluntish, similar to the calyx, but somewhat longer. *Filam.* very short, 3 opposite to the calyx, 3 to the corolla. *Anth.* large, roundish, of 2 lobes. *Germen* superior, large, ovate-oblong, with 3 or 6 furrows. *Styles* none. *Stigm.* 3 or 6, reflexed, feathery. *Caps.* linear, or ovate-oblong, obtuse, with as many cells as there are stigmas, opening at the base with pointed valves. *Seeds* solitary, oblong, pointed, triangular.

Perennial marsh herbs; with copious, radical, linear *leaves*; and a stalked, oblong *cluster*, of numerous, small, green *flowers*.

1. T. *palustre.* Marsh Arrow-grass.

Capsule nearly linear, of three cells; tapering at the base. Root fibrous.

T. palustre. *Linn. Sp. Pl.* 482. *Willd. v.* 2. 264. *Fl. Br.* 398. *Engl. Bot. v.* 6. *t.* 366. *Hook. Lond. t.* 98. *Scot.* 114. *Fl. Dan. t.* 490. *Leers* 92. *t.* 12. *f.* 5. *Ehrh. Calam.* 119.

T. n. 1. *Linn. in Stockh. Trans. for* 1742. 147. *t.* 6. *f.* 1, 2, 3.

T. n. 1308. *Hall. Hist. v.* 2. 165.

Juncago palustris et vulgaris. *Raii Syn.* 435.

Gramen triglochin. *Bauh. Hist. v.* 2. 508. *f. Dalech. Hist.* 431. *f.*

G. junceum spicatum, seu Triglochin. *Bauh. Pin.* 6. *Theatr.* 81. *f. Moris. v.* 3. 228. *sect.* 8. *t.* 2. *f.* 18.

G. aquaticum spicatum. *Ger. Em.* 13; *not the f.*

G. marinum spicatum. *Ger. Em.* 20; *the figure only.*

G. marinum spicatum alterum. *Lob. Ic.* 17. *f.*

Calamagrostis. *Trag. Hist.* 679. *left hand f.*

C. n. 4. *Dalech. Hist.* 1006. *f.*

In wet boggy meadows, frequent.

Perennial. *June, July.*

Root fibrous. *Leaves* all radical, numerous, sheathing, in 2 ranks, linear, channelled, smooth, about a span long, nearly upright. *Stalk* solitary, axillary, not central, a foot high, simple, naked, round, or slightly angular. *Cluster* erect, of 20, or more, small, reddish-green, upright, alternate *flowers*, without *bracteas*. As the *capsules* ripen, their sharp elastic valves, separating at the base, give them the appearance of a three-barbed arrow-head. There are rudiments of 3 intermediate cells. The *leaves* have a salt flavour, and are therefore thought salutary, as they certainly are acceptable, to sheep. Cows are said likewise to feed on this plant.

2. T. *maritimum.* Sea Arrow-grass.

Capsule ovate, of six cells.

T. maritimum. *Linn. Sp. Pl.* 483. *Willd. v.* 2. 265. *Fl. Br.* 399. *Engl. Bot. v.* 4. *t.* 255. *Hook. Lond. t.* 99. *Scot.* 114. *Fl. Dan. t.* 306. *Ehrh. Calam.* 137.

T. n. 2. *Linn. in Stockh. Trans. for* 1742. 147. *t.* 6. *f.* 4, 5.

Gramen marinum spicatum. *Raii Syn.* 435. *Lob. Ic.* 16. *f.*

G. spicatum alterum. *Bauh. Pin.* 6. *Theatr.* 82. *f. Ger. Em.* 20. *f.*

G. spicatum, cum pericarpiis parvis rotundis. *Bauh. Hist. v.* 2. 508. *f. Moris. v.* 3. 228. *sect.* 8. *t.* 2. *f.* 19.

In salt marshes, and the muddy margins of large rivers, abundantly.

Perennial. *May—August.*

Root somewhat woody. *Herb* like the last, but the *leaves* are semicylindrical, and more fleshy. *Germen* ovate, tumid, with 6 furrows, and as many equal lobes. *Caps.* of 6 cells, with 6 oblong valves, constructed exactly like the foregoing, the valves being suspended by the summit, and separating from the base upwards, only they do not spread so much.

The qualities are similar to those of *T. palustre,* and all domestic cattle are reported to be fond of the herbage, which has still more of a salt flavour.

208. COLCHICUM. Meadow-saffron.

Linn. Gen. 180. *Juss.* 47. *Fl. Br.* 399. *Tourn. t.* 181, 182. *Lam. t.* 267. *Gærtn. t.* 18.

Nat. Ord. *Spathaceæ.* Linn. 9. *Junci.* Juss. 13 ! *Melanthaceæ.* Br. Pr. 272. Hook. Scot. 182.

Cal. none. *Cor.* of 1 petal; tube radical, angular, much longer than the limb, which consists of 6 deep, elliptic-oblong, concave, upright segments, the 3 innermost rather the smallest. *Filam.* awl-shaped, inserted into the tube of the corolla, shorter than the limb. *Anth.* oblong, of 2 cells and 4 valves, peltate, incumbent. *Germ.* imbedded in the root, roundish. *Styles* 3, thread-shaped, the length of the stamens, converging below. *Stigmas* linear, recurved, channelled, downy. *Caps.* 3, superior, stalked, oblong, single-celled, inflated; convex externally; acute at the inner edge, where they are combined longitudinally, and where they finally burst and separate. *Seeds* numerous, globose, attached irregularly to each margin of the capsule.

Root bulbous. *Stem* none. *Leaves* oblong, sessile, sheathing, radical as well as the *flowers,* which are purple, their

tubes and *germens* enveloped in one common sheath, and accompanied by many interior more membranous ones. The *flowers* are autumnal; *leaves* and *fruit* vernal.

1. C. *autumnale*. Common Meadow-saffron.

Leaves flat, lanceolate, erect. Segments of the corolla oblong.

C. autumnale. *Linn. Sp. Pl.* 485. *Willd. v.* 2. 273. *Fl. Br.* 399. *Engl. Bot. v.* 2. *t.* 133. *Hook. Scot.* 114. *Mart. Rust. t.* 60. *Woodv. Med. Bot. t.* 177. *Bull. Fr. t.* 18.

C. n. 1255. *Hall. Hist. v.* 2. 124.

C. commune. *Bauh. Pin.* 67. *Raii Syn.* 373. *Rudb. Elys. v.* 2. 123. *f.* 1, 2.

C. anglicum purpureum et album. *Ger. Em.* 157. *f.*

Colchicum. *Trag. Hist.* 759. *f.* *Fuchs. Hist.* 356, 357. *f, f.* *Matth. Valgr. v.* 2. 450, 451. *f, f.* *Camer. Epit.* 845. *f.*

β. floribus serotinis. *Engl. Bot. v.* 20. *t.* 1432.

C. vernum helveticum. *Bauh. Pin.* 69.

C. vere prodiens. *Camer. Epit.* 846. *f.*

In moist rich meadows, but not common.

Chiefly in the north and west of England. *Ray.* At Little Stonham, Suffolk. *Mrs. Cobbold.* Near Bury. *Mr. Mathew.* At Filkins and Bradwell, Oxfordshire. *Bishop of Carlisle.* In Weston park, Staffordshire.

β. Near Devizes, Wilts. *Mr. Salmon.*

Perennial. *September.* β *April, May.*

Bulb ovate, large. *Leaves* dark green, very smooth, obtuse, above a foot long, 1½ inch broad, somewhat keeled, produced in spring, along with the *capsules*. *Fl.* several, radical, leafless, bright purple, with a long white tube. *Capsules* distinct, though forming together one oblong, elliptical *fruit*, with intermediate fissures. *Seeds* whitish, polished. The *flowers* in the variety β accompany the *leaves* in spring, and have long, narrow, greenish-white segments, violet-coloured at the base.

A spiritous tincture of the *root* or *seeds* of *Colchicum* is thought to be a famous quack medicine for the gout, called *eau medicinale*. At least such a tincture, in the dose of 40 or 50 drops, twice a day, has been found very useful in gout and rheumatism.

HEXANDRIA POLYGYNIA.

209. ALISMA. Water-plantain.

Linn. Gen. 181. *Juss.* 46. *Fl. Br.* 400. *Br. Prodr.* 342. *Lam. t.* 272. *Gærtn. t.* 84.
Damasonium. *Tourn. t.* 132. *Juss.* 46.
Actinocarpus. *Br. Prodr.* 342.

Nat. Ord. *Tripetaloideæ.* Linn. 5. *Junci.* Juss. 13! *Alismaceæ.* Br. Prodr. 342.

Cal. inferior, of 3 ovate, concave, permanent leaves. *Pet.* 3, roundish, much larger than the calyx, and alternate therewith, flat, widely spreading, deciduous. *Filam.* awl-shaped, shorter than the corolla. *Anth.* roundish. *Germens* superior, more than 5, ranged variously, tumid or compressed. *Styles* simple, slender, oblique. *Stigmas* obtuse. *Caps.* as many as the germens, compressed, externally rounded. *Seeds* small, solitary, rarely 2 together; *embryo* undivided, curved.

Aquatic, perennial, smooth *herbs*, with simple, entire *leaves*, and numerous, stalked, white, yellowish, or purplish, panicled or umbellate, inodorous *flowers*.

1. A. *Plantago.* Greater Water-plantain.

Leaves ovate, acute. Capsules obtusely triangular.

A. Plantago. *Linn. Sp. Pl.* 486. *Willd. v.* 2. 276. *Fl. Br.* 400. *Engl. Bot. v.* 12. *t.* 837. *Curt. Lond. fasc.* 5. *t.* 27. *Hook. Scot.* 114. *Fl. Dan. t.* 561. *Ehrh. Herb.* 128. *Pl. Off.* 414. *Br. Prodr.* 342.
Damasonium n. 1184. *Hall. Hist. v.* 2. 79.
Plantago aquatica. *Raii Syn.* 257. *Matth. Valgr. v.* 1. 438. *f. Camer. Epit.* 264. *f. Fuchs. Hist.* 42. *f. Dalech. Hist.* 1056. *f.* 1057. *Bauh. Hist. v.* 3. *p.* 2. 788. *f.*
P. aquatica latifolia. *Bauh. Pin.* 190.
P. aquatica major. *Ger. Em.* 417. *f.*
Broad Water Plantain. *Pet. H. Brit. t.* 43. *f.* 6.
β. Alisma lanceolata. *With.* 362. *Sym.* 90.
Plantago aquatica longifolia. *Dill. in Raii Syn.* 257.
Narrow Water Plantain. *Pet. H. Brit. t.* 43. *f.* 7.
γ. Plantago aquatica leptomacrophyllos. *Dill. in Raii Syn.* 258. *Loes. Pruss.* 199. *t.* 62.

In pools, ditches, and the margins of rivers, common.
Perennial. *July.*

Root fibrous. *Leaves* all radical, on long stalks, erect, ovate, acute, ribbed; in deep or running water lengthened out more or less, and then constituting the varieties β and γ; in the latter they are perfectly linear. *Flower-stalk* rising 2 or 3 feet above the water, panicled, with innumerable whorled, compound, spreading, bracteated branches and subdivisions. *Bracteas* aggregate, lanceolate, membranous, brownish. *Fl.* terminal, solitary, small, of a delicate pale purple. *Capsules* ranged side by side in a circle.

The remark in *Fl. Brit.* referring this, in character or qualities, to the *Ranunculaceæ*, is altogether erroneous.

2. A. *Damasonium*. Star-headed Water-plantain.

Leaves oblong; heart-shaped at the base. Styles six. Capsules tapering.

A. Damasonium. *Linn. Sp. Pl.* 486. *Willd. v.* 2. 277. *Fl. Br.* 401. *Engl. Bot. v.* 23. *t.* 1615. *Curt. Lond. fasc.* 5. *t.* 28. *Forst. Tonbr.* 47.

Damasonium stellatum. *Dalech. Hist.* 1058. *f.* *Raii Syn.* 372.

Plantago aquatica minor stellata. *Ger. Em.* 417. *f.*

P. aquatica minor altera. *Lob. Ic.* 301. *f.*

Star Water Plantain. *Pet. H. Brit. t.* 43. *f.* 5.

In ditches and pools, on a gravelly soil, but not common.

About London in several places. *Ray, Curtis.* On Hounslow heath, and on Winkfield plain near Windsor. *Bishop of Carlisle.* "Near Ellesmere, Shropshire. *Dr. Evans.* At Framlingham, Suffolk. *Rev. Mr. Crabbe.* In Sussex. *Mr. Borrer.*" *Bot. Guide.* On Waterdown Forest, and in the ponds at Abergavenny Park, near Tonbridge. *Mr. Forster.*

Perennial. *June, July.*

Root of many long pale fibres. *Leaves* all radical, floating, bluntish, with 5 ribs; a little heart-shaped at the base. *Footstalks* very broad, with many ribs and a membranous border, tapering upwards. *Flower-stalks* scarcely a span high, bearing 1 or 2 whorls of white *flowers*, yellow in the middle. *Capsules* 6, spreading in the form of a star, half-ovate, keeled, compressed, acute. *Seeds* 1 or 2 in each capsule.

3. A. *natans*. Floating Water-plantain.

Leaves elliptical, obtuse. Flower-stalks simple. Capsules striated.

A. natans. *Linn. Sp. Pl.* 487. *Willd. v.* 2. 278. *Fl. Br.* 402. *Engl. Bot. v.* 11. *t.* 775. *Davies Welsh Bot.* 36. *Fl. Dan. t.* 1573.

Damasonium repens, Potamogetonis rotundifolii folio. *Vaill. Act. Paris. for* 1719. 311. *t.* 4. *f.* 8; German edition.

In the lakes of North Wales and Cumberland.

In the great lake, below the old castle, at Llanberris, North Wales. *Mr. Brewer.* At the south end of Bala lake, Merionethshire. *Rev. W. Wood.* In Keswick lake, Cumberland. *Right hon. Charles Greville.* Not uncommon in the Welsh lakes, though seldom flowering. *Rev. H. Davies.*

Perennial. *July, August.*

Root fibrous. *Stems* floating, thread-shaped, varying in length from 3 to 10 feet, according to the depth of the water, and throwing out radicles, as well as a few leaves and flowers, from every joint. *Leaves* floating, about an inch long, on still longer *footstalks*, with membranous, ovate, concave *stipulas*. There are numerous, radical, membranous, ribbed, tapering *footstalks*, 3 or 4 inches long, bearing no leaves. *Flower-stalks* 1 or 2 from each joint, erect, simple, single-flowered. *Pet.* large, orbicular, white, with a yellow spot near the claw. *Caps.* from 6 to 12, oblong, recurved, beaked, copiously striated.

4. A. *ranunculoides.* Lesser Water-plaintain.

Leaves linear-lanceolate. Capsules angular, acute, numerous, in a globular head. Stem none.

A. ranunculoides. *Linn. Sp. Pl.* 487. *Willd. v.* 2. 279. *Fl. Br.* 402. *Engl. Bot. v.* 5. *t.* 326. *Hook. Lond. t.* 28. *Scot.* 115. *Fl. Dan. t.* 122. *Redout. Liliac. t.* 268.

Plantago aquatica minor. *Raii Syn.* 257.

P. aquatica humilis. *Ger. Em.* 417. *f.*

P. aquatica humilis angustifolia. *Bauh. Hist. v.* 3. *p.* 2. 778, 2. *f.* *Lob. Ic.* 300. *f.*

Small Water Plantain. *Pet. H. Brit. t.* 43. *f.* 8.

Ranunculus aquaticus, plantaginis folio angustissimo. *Pet. Gazoph. v.* 1. 6. *t.* 26. *f.* 12.

In swamps, and turfy bogs, not very common.

Perennial. *August.*

Root fibrous. *Leaves* all radical, linear-lanceolate, 3-ribbed, erect, on long, flattish, or semi-cylindrical, highly vascular stalks. *Flower-stalks* radical, erect, from 3 to 10 inches high, bearing 1 or 2 whorls of light-purple *flowers*. *Capsules* numerous, collected into a globular head, obovate, compressed, pointed, with 5 strong ribs.

5. A. *repens.* Creeping Water-plantain.

Leaves lanceolate. Capsules compressed, acute, numerous, in a globular head. Stems prostrate, creeping.

A. repens. *Davies Welsh Bot.* 36. *Cavan. Ic. v.* 1. 41. *t.* 55.

On the margins of several lakes in North Wales. *Rev. H. Davies.*

Perennial. *September, October.*

Like the last in general appearance, but differing essentially, according to the authors quoted, in having several procumbent leafy *stems*, throwing out *radicles*, with 1 or 2 *leaves*, and as many *flowers*, here and there, from the joints, in the manner of *A. natans*. Towards the ends of the stems it appears that the flowers are not accompanied by leaves. The *petals* are pale purple, and, according to Cavanilles, crenate. I have not seen a specimen.

Class VII. HEPTANDRIA. *Stam.* 7.

Order I. MONOGYNIA. Pistil 1.

210. TRIENTALIS. *Cal.* of 7 leaves. *Cor.* in 7 deep segments, equal and flat. *Caps.* of about 7 valves. *Seeds* tunicated.

Ulmus 4.

HEPTANDRIA MONOGYNIA.

210. TRIENTALIS. Chickweed Winter-green.

Rupp. Jen. ed. 1. 20. *Linn. Gen.* 183. *Juss.* 96. *Fl. Br.* 406. *Rees Cycl. v.* 36. *Lam. t.* 275. *Gærtn. t.* 50.

Nat. Ord. *Rotaceæ.* Linn. 20. *Lysimachiæ.* Juss. 34.

Cal. inferior, of 7 awl-shaped, acute, spreading, permanent leaves. *Cor.* of 1 petal, wheel-shaped, in 7 deep, spreading, elliptic-lanceolate, nearly equal, segments, alternate with the calyx, very slightly connected. *Filam.* capillary, spreading, the length of the calyx, shorter than the corolla, inserted into the base of each segment. *Anth.* terminal, oblong, recurved. *Germ.* globose, superior. *Style* cylindrical, rather swelling upwards, the length of the stamens. *Stigma* obtuse. *Caps.* globose, of 1 cell, and 7 elliptic-oblong valves, rarely fewer, shorter than the calyx, with obtuse recurved points. *Seeds* few, roundish, somewhat angular at the inner side, each invested with a lax, white, membranous, reticulated *tunic*, and all together covering the large, central, globose, cellular *receptacle*.

The parts of fructification were observed by Linnæus to vary occasionally as to number.

Herbage smooth. *Stem* simple, leafy at the top. *Fl.* white, on simple axillary stalks.

1. T. *europæa*. European Chickweed Winter-green.

Leaves obovate-oblong; the lowermost very obtuse.

T. europæa. *Linn. Sp. Pl.* 488. *Fl. Lapp. ed.* 2. 109. *Willd. v.* 2. 282. *Fl. Br.* 406. *Engl. Bot. v.* 1. *t.* 15. *Hook. Scot.* 115. *Fl. Dan. t.* 84. *Ehrh. Herb.* 84.

Herba Trientalis. *Bauh. Hist. v.* 3. 536. *f.* 537.

Alsinanthemos. *Raii Syn.* 286. *Thal. Harcyn.* 15.

Pyrola alsines flore Europæa. *Bauh. Pin.* 191. *Moris. v.* 3. 505. *excluding sect.* 12. *t.* 10. *f.* 6.; which is copied from Bauhin's cut, *Prodr.* 100, of a Brasilian specimen.

Chickweed Winter-green. *Pet. H. Brit. t.* 62. *f.* 13.

On turfy heaths, and woody declivities, in mountainous countries.

In several parts of the north of England, but most plentiful in Scotland.

Perennial. *May, June.*

Root slightly tuberous, somewhat creeping. *Stem* solitary, simple, erect, roundish, 3 or 4 inches high, almost naked, except at the top, where it is crowned with a tuft of *leaves* and very elegant white *flowers*. *Leaves* crowded, on short stalks, obovate-oblong, more or less blunt, bright green, beautifully veined, entire, or obscurely serrated; tapering at the base; a few dispersed ones beneath much smaller and more obtuse. *Flower-stalks* 1, 2 or 3, among the leaves, not quite so long, erect, capillary, simple, naked. *Flowers* solitary, sometimes only 5- or 6-cleft, of a brilliant white, tinged with pink as they fade. *Anth.* and *stigma* often reddish. *Seeds* dotted, black, with snow-white reticulated *tunics*, like fine lace.

Few persons have seen the fruit of this plant, and it was most unaccountably mistaken, even by Linnæus and Gærtner, though what little is said on the subject by Thalius is correct. I have explained the history of this error in Dr. Rees's *Cyclopædia*, and the above description will serve to correct that in *Fl. Brit.* The valves of the ripe *capsule* become concave externally; convex and polished within, and have been taken for a permanent *corolla*. But they are opposite to the *calyx-leaves*, which the segments of the *cor.* are not. The beautiful *tunics* of the *seeds* were supposed to be the skin of a dry berry, and are not faithfully represented by Gærtner.

Mr. Brown has suggested that this plant may probably be a real species of *Lysimachia*; nor is there any thing against it but these tunics, and the number of the several parts of fructification.

Class VIII. OCTANDRIA. *Stam.* 8.

Order I. MONOGYNIA. Pistil 1.

* *Fl. complete.*

219. ACER. *Pet.* 5. *Cal.* 5-cleft, inferior. *Caps.* winged. *Seeds* 1 or 2.

212. EPILOBIUM. *Pet.* 4. *Cal.* 4-cleft, superior. *Caps.* of 4 cells. *Seeds* bearded.

211. ŒNOTHERA. *Pet.* 4. *Cal.* 4-cleft, superior. *Caps.* of 4 cells. *Seeds* beardless. *Anth.* linear.

213. CHLORA. *Cor.* in 8, or 6, deep segments. *Cal.* inferior, of as many leaves. *Caps.* of 1 cell.

214. VACCINIUM. *Cor.* of 1 petal. *Cal.* 4-cleft. *Berry* inferior.

215. MENZIESIA. *Cor.* of 1 pet. *Cal.* of 1 leaf. *Capsule* superior; partitions double, from the margins of the valves.

217. ERICA. *Cor.* of 1 pet. *Cal.* of 4 leaves. *Caps.* superior; partitions simple, from the centre of each valve.

216. CALLUNA. *Cor.* of 1 pet. *Cal.* double; each of 4 leaves. *Caps.* superior; partitions from the column, alternate with the valves.

Monotropa.

** *Fl. apetalous.*

218. DAPHNE. *Cal.* coloured, four-cleft, inferior. *Berry* with 1 seed.

(*DIGYNIA. Pist.* 2.)

See *Polygonum, Chrysosplenium, Scleranthus.*

Order II. TRIGYNIA. Pistils 3.

220. POLYGONUM. *Cal.* coloured, in several deep segments, inferior. *Cor.* 0. *Seed* 1, naked.

Order III. TETRAGYNIA. Pistils 4.

222. ADOXA. *Cal.* half-inferior. *Cor.* in 4 or 5 segments. *Berry* invested with the calyx. *Seeds* 4, bordered.

221. PARIS. *Cal.* of 4 leaves. *Pet.* 4. *Berry* superior. *Seeds* numerous, globose.

223. ELATINE. *Cal.* of 4 leaves. *Pet.* 4. *Caps.* superior, of 4 cells; partitions from the column. *Seeds* oblong.

Sagina 2.

OCTANDRIA MONOGYNIA.

211. ŒNOTHERA. Evening-primrose.

Linn. Gen. 187. *Juss.* 319. *Comp.* 59. *Lam. t.* 279. Onagra. *Tourn. t.* 156. *Gærtn. t.* 32.

Nat. Ord. *Calycanthemæ.* Linn. 17. *Onagræ.* Juss. 88. *N.* 212 the same.

Cal. superior, of 1 leaf, deciduous; tube cylindrical, erect, bearing the *pet.* and *stam.*; limb in 4 deep, oblong, acute, reflexed, partly combined, segments. *Pet.* 4, inversely heart-shaped, equal, flat, attached to the summit of the tube of the calyx, and as long as the limb. *Filam.* from the throat of the tube, awl-shaped, incurved, shorter than

the petals. *Anth.* linear-oblong, peltate, incumbent. *Germ.* inferior, oblong, furrowed. *Style* thread-shaped, the length of the stamens. *Stigma* in 4 thick, obtuse, spreading segments. *Caps.* oblong, bluntly quadrangular, with 4 furrows, 4 cells, and 4 valves. *Seeds* numerous, angular, beardless. *Recept.* linear, quadrangular, unconnected.

Herbs with simple, entire, toothed, or cut, *leaves*. *Fl.* solitary, from the bosoms of the upper leaves, large and handsome, short-lived, yellow, white, or purple. Most of the species are natives of America, or of the Cape of Good Hope.

1. Œ. *biennis*. Common Evening-primrose.

Leaves ovate-lanceolate, flat. Stem rough, somewhat hairy. Stamens equal. Petals undivided.

Œ. biennis. *Linn. Sp. Pl.* 492. *Willd. v.* 2. 306. *Engl. Bot. v.* 22. *t.* 1534. *Comp.* 59. *Purt. v.* 3. 355. *Ait. H. Kew. ed.* 2. *v.* 2. 341. *Roth Germ. v.* 1. 168. *v.* 2. *p.* 1. 439. *Fl. Dan. t.* 446.

Œ. foliis ovato-lanceolatis planis. *Linn. Virid. Cliff.* 33. *Mill. Ic.* 126. *t.* 189. *f.* 2.

Œ. n. 994. *Hall. Hist. v.* 1. 425.

Lysimachia lutea corniculata. *Bauh. Pin.* 245. *app.* 516.

L. lutea corniculata non papposa, virginiana, major. *Moris. v.* 2. 271. *sect.* 3. *t.* 11. *f.* 7.

L. lutea siliquosa virginiana. *Park. Parad.* 264. *t.* 263. *f.* 6.

Hyosciamus virginianus. *Alpin. Exot.* 325. *t.* 324.

On sandy banks, on the west coast of England.

Between the first and second ranges of sand-banks, on the coast of Lancashire, a few miles north of Liverpool, in the greatest abundance. *Dr. Bostock and Mr. John Shepherd.* It covers several acres of ground near Woodbridge, Suffolk. *Mr. D. Turner.* On the banks of the Arrow, Warwickshire. *Mr. Purton.*

Biennial. *July—September.*

Root tapering. *Stem* 2 or 3 feet high, often branched, leafy, angular, rough with minute tubercles, and more or less hairy. *Leaves* alternate, ovate, or lanceolate, acute, toothed, downy, grass-green; the lowermost stalked, wavy, much the largest. *Flowers* numerous, bright yellow, forming terminal leafy spikes. They expand in an evening, and are delicately fragrant. *Capsule* short, rough.

This *Œnothera* is common in gardens, and often escapes from thence into rich waste ground. But on the dreary sands of our Lancashire coast it is truly wild; being planted there by the hand of Nature, though perhaps transported, by natural means, from the other side of the Atlantic.

212. EPILOBIUM. Willow-herb.

Linn. G. Pl. 188. *Juss.* 319. *Fl. Br.* 409. *Lam. t.* 278. *Gærtn. t.* 31.

Chamænerion. *Tourn. t.* 157.

Nat. Ord. See *n.* 211.

Cal. superior, of 1 leaf, in 4 deep, oblong, pointed, coloured, deciduous segments. *Pet.* 4, dilated upwards, more or less cloven, spreading, inserted between the divisions of the calyx. *Filam.* awl-shaped, from the throat of the calyx; four alternate ones shorter. *Anth.* attached by the back, oval, compressed, obtuse. *Germ.* inferior, cylindrical, slightly quadrangular, very long. *Style* thread-shaped. *Stigma* thick, obtuse, either undivided, or usually in 4 deep, recurved segments. *Caps.* very long, quadrangular, furrowed, with 4 cells and 4 linear valves, with central partitions. *Seeds* numerous, small, oblong, each with a feathery crown. *Recept.* very long, linear, quadrangular, pliant, coloured, its angles meeting the central partition of each valve.

Herbs with simple, generally toothed, *leaves*. *Fl.* purple, in terminal, leafy clusters or spikes, without scent. *Seed-down* silky.

* *Flowers irregular.*

1. E. *angustifolium*. Rose-bay Willow-herb. Persian, or French Willow.

Leaves scattered, linear-lanceolate, veiny, smooth. Petals unequal. Stamens declining.

E. angustifolium. *Linn. Sp. Pl.* 493. *Willd. v.* 2. 313. *Fl. Br.* 409. *Engl. Bot. v.* 28. *t.* 1947. *Curt. Lond. fasc.* 2. *t.* 24. *Hook. Scot.* 116. *Winch Guide v.* 1. 36. *Fl. Dan. t.* 289.

E. n. 1000. *Hall. Hist. v.* 1. 426.

Lysimachia speciosa, quibusdam Onagra dicta, siliquosa. *Bauh. Hist. v.* 2. 906. *f.* *Raii Syn.* 310.

L. Chamænerion dicta latifolia. *Bauh. Pin.* 245.

Chamænerion. *Ger. Em.* 477. *f.*

Onagra. *Dalech. Hist.* 865. *f.*

In meadows and moist shady places, chiefly in the north of England.

In meadows near Sheffield, and in several other places in the North, plentifully. *Ray.* Near Alton, Hants. *Dill. Curt.* At Grays, near Henley, Oxfordshire. *Rev. Mr. Lightfoot.* On the Cheviot hills. *Mr. Winch.* Teesdale. *Rev. Mr. Harriman.* In

many places in the south of Scotland. *Hooker.* On a rising ground, beyond the Robin Hood inn, in the road to Kingston-upon-Thames.

Perennial. *July, August.*

Root creeping, fleshy, with numerous buds. *Stems* from 3 to 6 feet high, erect, roundish, leafy, smooth, reddish, seldom branched. *Leaves* scattered, numerous, nearly sessile, linear-lanceolate, acute, various in breadth, entire, or slightly toothed, smooth, veiny, single-ribbed; glaucous beneath. *Fl.* crimson, inodorous, very handsome, numerous, in long, terminal, upright clusters, with a small linear *bractea* under each partial stalk. *Germens* hoary, purplish on the upper side. *Stam.* and *style* bent downwards. *Pollen* blue.

A very ornamental flower, common in gardens, where it increases but too rapidly; thriving, like many mountain plants, even in the smoky air of London. There is a white variety. Bauhin's *n.* 7, *L. Chamænerion dicta angustifolia,* usually taken to be this plant, seems, from some of his synonyms, what is now named *E. angustissimum,* which is likewise his *n.* 8.

** *Flowers regular. Stigma deeply* 4*-cleft.*

2. E. *hirsutum.* Great Hairy Willow-herb. Codlings and Cream.

Leaves half clasping the stem, ovate-lanceolate, hairy. Stem copiously branched. Root creeping.

E. hirsutum. *Linn. Sp. Pl.* 494. *Willd. v.* 2. 315. *Fl. Br.* 410. *Engl. Bot. v.* 12. *t.* 838. *Curt. Lond. fasc.* 2. *t.* 21. *Hook. Scot.* 117. *Fl. Dan. t.* 326.

E. ramosum. *Huds.* 162. *Ehrh. Herb.* 153.

E. n. 995, *α. Hall. Hist. v.* 1. 425.

Lysimachia siliquosa hirsuta, magno flore. *Bauh. Pin.* 245. *Raii Syn.* 311. *Moris. v.* 2. 270. *sect.* 3. *t.* 11. *f.* 3.

L. siliquosa. *Ger. Em.* 476. *f.*

L. purpurea. *Fuchs. Hist.* 491. *f.*

In watery places, ditches, and margins of rivers, among reeds, coarse grasses, and willows, common.

Perennial. *July.*

Root creeping extensively. Whole *herb* downy, soft, and clammy, exhaling a peculiar acidulous scent, justly compared to the flavour of boiled codlings and cream. *Stems* 4 feet, or more, in height, round, leafy, branched and bushy. *Lower leaves* opposite, clasping the stem, or in some measure decurrent; *upper* alternate, and merely sessile; all toothed. *Fl.* in leafy corymbose clusters, large, of a delicate pink, with cloven regular *petals,* and erect *stamens* and *style. Germen* downy, very long.

3. E. *parviflorum.* Small-flowered Hoary Willow-herb.

Leaves sessile, lanceolate, downy. Stem nearly simple, woolly. Root fibrous.

E. parviflorum. *Schreb. Lips.* 146. *With.* 367. *Fl. Br.* 410. *Engl. Bot. v.* 12. *t.* 795. *Hook. Scot.* 117.
E. pubescens. *Willd. Sp. Pl. v.* 2. 315.
E. hirsutum. *Huds.* 161. *Linn. Sp. Pl.* 494, *β.*
E. villosum. *Curt. Lond. fasc.* 2. *t.* 22. *Relh.* 152. *Sibth.* 121. *Abbot* 84. *Ehrh. Herb.* 104.
E. foliis longis dentatis villosis, flore parvo. *Hall. Enum.* 410. *Fl. Dan. t.* 347.
E. n. 995, *β. Hall. Hist. v.* 1. 425.
Lysimachia siliquosa hirsuta, parvo flore. *Bauh. Pin.* 245. *Prodr.* 116. *Raii Syn.* 311. *Moris. v.* 2. 270. *sect.* 3. *t.* 11. *f.* 4.
L. siliquosa hirsuta, flore minore. *Bauh. Hist. v.* 2. 906. *f.*

Frequent in watery places and about the banks of rivers.
Perennial. *July.*
Root fibrous. *Stem* about 2 feet high, either quite simple, or slightly branched at the top only, round, leafy, clothed more or less with a soft dense woolliness. *Leaves* most of them opposite, sessile, minutely toothed; soft and downy on both sides. *Fl.* but a quarter the size of the last, light purple, in long leafy clusters. *Stigma* deeply 4-cleft, as in the two foregoing species and the following.

4. E. *montanum.* Broad Smooth-leaved Willow-herb.

Leaves stalked, ovate, toothed. Stem round. Stigma in four deep segments.

E. montanum. *Linn. Sp. Pl.* 494. *Willd. v.* 2. 316. *Fl. Br.* 411. *Engl. Bot. v.* 17. *t.* 1177. *Curt. Lond. fasc.* 3. *t.* 24. *Hook. Scot.* 117. *Fl. Dan. t.* 922. *Ehrh. Herb.* 114.
E. n. 996. *Hall. Hist. v.* 1. 426.
Lysimachia siliquosa glabra major. *Bauh. Pin.* 245. *Moris. v.* 2. 270. *sect.* 3. *t.* 11. *f.* 5.
L. campestris. *Ger. Em.* 478. *f. Raii Syn.* 311.
In dry, shady, hilly, or stony, places; on old walls, or cottage roofs, frequent.
Perennial. *July.*
Root slightly creeping, with red shoots. *Stem* 1½ or 2 feet high, erect, round, leafy, smooth or minutely downy, scarcely branched, usually red. *Lower leaves* opposite, on short stalks, ovate, broad, toothed, smooth and pliant, with hoary veins; *upper* alternate

and narrower. *Fl.* light purple, few, in a terminal, leafy, corymbose cluster, rather smaller than the last.

*** *Fl. regular. Stigma undivided.*

5. E. *roseum.* Pale Smooth-leaved Willow-herb.

Leaves stalked, ovate, toothed. Stem erect, with four obsolete angles. Stigma undivided.

E. roseum. *Schreb. Lips.* 147. *Forst. in Sym. Syn.* 198. *Tonbr.* 48. *Fl. Br.* 411. *Engl. Bot. v.* 10. *t.* 693. *Ehrh. Herb.* 144.
E. montanum γ. *Willd. Sp. Pl. v.* 2. 316.
"E. minus, flore albo. *Schmidel in Gesn. Fasc.* 2. 28. *t.* 20. *f.* 73."

In waste boggy ground, or watery places, rare.
In Lambeth marsh. *Mr. Curtis.* At Moreton, near Ongar, Essex. *Mr. E. Forster.* Near Withyam, Sussex. *Rev. S. Bale.*
Perennial. *July.*
Root fibrous. *Herbage* not unlike the last, but the *stem* is more branched, and at the upper part obscurely quadrangular. *Leaves* smooth, thin and delicate; the upper ones alternate. *Fl.* paler than the preceding; *petals* streaked at the base. *Stigma* small, club-shaped and undivided, by which it essentially differs from *E. montanum*, and agrees with *tetragonum* hereafter described. Yet it is too abundantly propagated by seed to be supposed a mule production.

6. E. *tetragonum.* Square-stalked Willow-herb.

Leaves lanceolate, sessile, minutely toothed. Stem erect, unequally quadrangular. Stigma undivided.

E. tetragonum. *Linn. Sp. Pl.* 494. *Willd. v.* 2. 317. *Fl. Br.* 412. *Engl. Bot. v.* 28. *t.* 1948. *Curt. Lond. fasc.* 2. *t.* 23. *Hook. Scot.* 117. *Fl. Dan. t.* 1029. *Ehrh. Herb.* 43.
E. n. 997. *Hall. Hist. v.* 1. 426.
Lysimachia siliquosa glabra minor. *Bauh. Pin.* 245.
L. siliquosa glabra media, sive minor. *Ger. Em.* 479. *Raii Syn.* 311.

In ditches, and watery marshy places, common.
Perennial. *July.*
Root somewhat creeping. *Herb* nearly or quite smooth. *Stem* erect, 12 or 18 inches high, seldom a little downy, roundish, with 4 angular ribs at unequal distances. *Leaves* for the most part alternate, generally sessile, much narrower than the last, minutely and unequally toothed. *Fl.* few, in leafy clusters. *Pet.* pale purple, cloven. *Stigma* ovate, or club-shaped, always undivided. *Caps.* and *flower-stalks* a little hoary.—Mr. Curtis thought *E. roseum* a variety of the present species; but from long observation I am now persuaded they are permanently distinct.

7. E. *palustre.* Round-stalked Marsh Willow-herb.

Leaves sessile, linear-lanceolate, slightly toothed. Stem round. Stigma undivided.

E. palustre. *Linn. Sp. Pl.* 495. *Willd. v.* 2. 317. *Fl. Br.* 412. *Engl. Bot. v.* 5. *t.* 346. *Hook. Scot.* 117. *Dicks. H. Sicc. fasc.* 2. 15. *Ehrh. Herb.* 105. *Fl. Dan. t.* 1574.
E. n. 998. *Hall. Hist. v.* 1. 426.
Lysimachia siliquosa glabra angustifolia. *Bauh. Pin.* 245.
L. siliquosa glabra minor angustifolia. *Raii Syn.* 311.
Chamænerion alterum angustifolium. *Ger. Em.* 477. *f.*

In boggy turfy ground, near ditches and rivulets.
Perennial. *July.*
Root somewhat creeping. *Herb* nearly or quite smooth, extremely variable in luxuriance, and on turfy bogs sometimes very diminutive. *Stem* always erect, generally branched, from 4 or 6 inches to 12 or 18 in height, round, leafy. *Leaves* for the most part opposite, sessile, linear-lanceolate, bluntish, smooth, slightly and occasionally toothed; the upper ones alternate and most entire. *Clusters* leafy. *Pet.* inversely heart-shaped, pale purple, with darker streaks. *Stigma* linear, obtuse, undivided.—The wooden cut in Gerarde, indicated above, is applied to various species by different authors. Haller doubted whether *E. palustre* were a good species, but the *stigma* is narrower, and differently shaped from that of *tetragonum*, and the *leaves*, as Ray observes, are darker coloured, nearly entire, and more contracted at their base.

8. E. *alsinifolium.* Chickweed-leaved Willow-herb.

Leaves stalked, ovate, acute, toothed. Stigma undivided. Root creeping. Stem decumbent, obtusely quadrangular.

E. alsinifolium. *Villars Dauph. v.* 3. 511. *Comp.* 60. *Engl. Bot. v.* 28. *t.* 2000. *Hook. Scot.* 117.
E. n. 361. *Winch Guide v.* 1. 36. *v.* 2. *pref.* 4.
E. montanum *δ. Willd. Sp. Pl. v.* 2. 316 ?
Lysimachia siliquosa glabra minor latifolia. *Raii Hist. v.* 1. 862. *Syn.* 311.
L. siliquosa nana prunellæ foliis acutis. *Bocc. Mus.* 161. *t.* 108.

On the margins of mountain rivulets.
In rivulets on the sides of the Cheviot hills, as mentioned by Ray. *Mr. Winch.* On many of the Highland mountains of Scotland. *Mr. G. Don and Mr. J. Mackay.* Found by Mr. Murray on Ben Nevis; and by Mr. Arnott on Hart-fell, near Moffatt. *Hooker.*
Perennial. *July.*
Root creeping extensively, forming broad matted tufts, which are

leafy throughout the winter. *Stems* simple, numerous, leafy, decumbent, hardly a span long, roundish, with 4 angles; the flowering extremities ascending; the base when luxuriant throwing out a few weak leafy branches. *Leaves* opposite, on short stalks, more resembling *E. roseum* than any other species, but more pointed and of a deeper green. *Fl.* in leafy clusters; the *floral leaves* often alternate. *Petals* broadly heart-shaped, rose-coloured, veiny, full as large as those of *E. palustre*. *Germen* and base of the *calyx* clothed, more or less, with fine, close, hoary, recurved hairs. *Capsule* long and slender, generally smooth.

There can be no doubt of the wide difference between this and all varieties of the following, with which it was long confounded.

9. E. *alpinum*. Alpine Willow-herb.

Leaves slightly stalked, elliptic-lanceolate, obtuse, mostly entire. Stem decumbent, two- or three-flowered.

E. alpinum. *Linn. Sp. Pl.* 495. *Willd. v.* 2. 318. *Fl. Br.* 413. *Engl. Bot. v.* 28. *t.* 2001. *Lightf.* 199. *t.* 10. *f.* 1. *Hook. Scot.* 118. *Dicks. H. Sicc. fasc.* 2. 14. *Villars Dauph. v.* 3. 510. *Fl. Dan. t.* 322.

E. n. 999. *Hall. Hist. v.* 1. 426.

By the sides of alpine rivulets in Scotland.

On Ben Lomond, about two thirds of the way up; and on all the Highland mountains.

Perennial. *June, July.*

Root creeping. *Stems* 3 or 4 inches long, unbranched, except a few leafy shoots occasionally from the base, weak, decumbent, leafy, slightly angular, sometimes downy. *Leaves* usually half an inch long, elliptical, obtuse, smooth and entire; sometimes toothed, sometimes elongated, and tapering at the base, but not increased in breadth; the few floral ones only alternate. *Fl.* about 2, rarely 1 or 3, alternate at the summit of the stem, erect, stalked, bright red, rather smaller than the last. *Pet.* cloven. *Stigma* club-shaped. *Germen* long, downy. *Capsule* declining, or variously curved.

213. CHLORA. Yellow-wort.

Linn. Syst. Nat. ed. 12. *v.* 2. 267. *Schreb. Gen.* 256. *Juss.* 142. *Fl. Br.* 413. *Lam. t.* 296.

Blackstonia. *Huds. ed.* 1. 146.

Nat. Ord. *Rotaceæ*. Linn. 20. *Gentianæ*. Juss. 46.

Cal. inferior, of 8 linear, spreading, permanent leaves. *Cor.* of 1 petal, salver-shaped; tube shorter than the calyx, investing the germen; limb in 8, rarely but 6, deep, equal, elliptic-oblong segments, spiral in the bud, longer than

the tube. *Filam.* thread-shaped, short, from the mouth of the tube, as many as the segments of the limb, and alternate with them. *Anth.* linear, erect, shorter than the corolla. *Germ.* superior, ovate-oblong. *Style* cylindrical, rather longer than the tube, erect. *Stigmas* 2, ovate-oblong, cloven. *Caps.* ovate, with a furrow along each side, invested with the enlarged, membranous tube of the corolla, of 1 cell, and 2 valves with inflexed margins. *Seeds* very numerous, angular, minutely granulated, inserted in many rows along the inflexed margins of the valves.

Herbaceous, annual, smooth, glaucous, very bitter. *Leaves* opposite or perfoliate, undivided, entire. *Fl.* terminal, stalked, aggregate or solitary, yellow.

1. C. *perfoliata.* Perfoliate Yellow-wort.

Leaves perfoliate. Panicle forked, many-flowered.

C. perfoliata. *Linn. Syst. Nat. ed.* 12. *v.* 2. 267. *Willd. Sp. Pl. v.* 2. 340. *Fl. Br.* 413. *Engl. Bot. v.* 1. *t.* 60. *Hook. Lond. t.* 2. *Dicks. H. Sicc. fasc.* 14. 13. *Purt. v.* 1. 193.

Chlora. *Renealm. Spec.* 80. *t.* 76.

Gentiana perfoliata. *Linn. Sp. Pl.* 335.

G. n. 649. *Hall. Hist. v.* 1. 289.

Centaurium luteum perfoliatum. *Bauh. Pin.* 278. *Raii Syn.* 287. *Camer. Epit.* 427. *f. Moris. v.* 2. 565. *sect.* 5. *t.* 26. *f.* 1.

C. parvum luteum Lobelii. *Ger. Em.* 547. *f.*

On chalky hills, or banks, as well as on a clay soil, not very uncommon.

Annual. *July, August.*

Root of a few twisted fibres. *Stem* 12 or 18 inches high, erect, round, leafy, unbranched, terminating in an upright, leafy, repeatedly forked *panicle,* of many elegant, bright yellow *flowers,* open in sunshine only, with scarlet *stigmas.* *Leaves* ovate, acute, combined and perfoliate. The whole herb is very glaucous, subject to mildew; its qualities similar to those of *Gentiana* and *Erythræa,* but weaker. *Fl.* without scent. There is some mistake in Professor Hooker's citation of *Fl. Dan. t.* 332.

214. VACCINIUM. Whortle-berry.

Linn. Gen. 191. *Juss.* 162. *Fl. Br.* 414. *Rees's Cycl. v.* 36. *Lam. t.* 286. *Gærtn. t.* 28.

Vitis Idæa. *Tourn. t.* 377.

Oxycoccus. *Tourn. t.* 431.

Nat. Ord. *Bicornes.* Linn. 18. *Ericæ.* Juss. 51. *Vacciniæ.* DeCand. 71.

Cal. superior, of 1 leaf, small, permanent, 4-toothed. *Cor.* of 1 petal, bell-shaped, with 4, more or less deep, revolute segments. *Filam.* awl-shaped, flattened, inserted into the receptacle, equal. *Anth.* terminal, erect, oblong, with 2 points, opening by a terminal pore in each. *Germ.* inferior, roundish. *Style* simple, cylindrical, erect, longer than the stamens. *Stigma* obtuse. *Berry* globular, with a central depression, 4-celled. *Seeds* few, small, angular.

One fourth is occasionally added to the number of each part of the fructification.

Shrubs, mostly of very humble growth, with simple, alternate, evergreen or deciduous, *leaves*. *Fl.* stalked, solitary or aggregate, reddish or white, very elegant. *Berries* blue, black, or red, acid and eatable. The genus is chiefly American, and the foliage turns red in decay. It is an insurmountable stumbling-block in the way of all received principles of natural classification, being of the *Erica* tribe, with an inferior germen!

* *Leaves deciduous.*

1. V. *Myrtillus*. Black Whortle-berry. Bilberry.

Stalks solitary, single-flowered. Leaves ovate, serrated, membranous, smooth, deciduous. Stem acutely angular. Calyx wavy, nearly entire.

V. Myrtillus. *Linn. Sp. Pl.* 498. *Willd. v.* 2. 348. *Fl. Br.* 414. *Engl. Bot. v.* 7. *t.* 456. *Hook. Scot.* 118. *Fl. Dan. t.* 974. *Ehrh. Arb.* 82.

V. n. 1020. *Hall. Hist. v.* 1. 436.

Vaccinia nigra. *Ger. Em.* 1415. *f. Dod. Pempt.* 768. *f.*

Vitis Idæa angulosa. *Bauh. Hist. v.* 1. 520, *with a wrong figure. Raii Syn.* 457.

Idæa Vitis. *Dalech. Hist.* 191. *f.*

Myrtillus. *Trag. Hist.* 974. *f.* 975. *Matth. Valgr. v.* 1. 210. *f. Camer. Epit.* 135. *f.*

On stony heaths, and in woods where the soil is turfy, chiefly in mountainous countries, abundantly.

Shrub. *May.*

Stem bushy, from 1 to 2 feet high, with irregular, smooth, green, leafy, angular branches. *Leaves* stalked, ovate, serrated, about an inch long, bright green, smooth, thin, delicate and veiny, deciduous. *Stipulas* none. *Fl.* on simple, axillary, solitary, drooping stalks. *Calyx* dilated and wavy, scarcely toothed. *Cor.* ovate, bright red, with a waxy transparency; generally 5-cleft. *Stam.* 10. *Anth.* with 2 lateral horns. *Berries* blueish-black, of 5 cells,

acid, but not agreeable nor wholesome, except when dressed. They are nevertheless eaten raw in some countries, with boiled cream, and sugar.

2. V. *uliginosum.* Bog Whortle-berry. Great Bilberry.

Stalks somewhat aggregate, single-flowered. Leaves obovate, entire, smooth, deciduous. Branches round.

V. uliginosum. *Linn. Sp. Pl.* 499. *Willd. v.* 2. 350. *Fl. Br.* 415. *Engl. Bot. v.* 9. *t.* 581. *Hook. Scot.* 118. *Fl. Dan. t.* 231. *Ehrh. Arb.* 52.

V. n. 1021. *Hall. Hist. v.* 1. 437.

Vitis Idæa magna quibusdam, sive Myrtillus grandis. *Raii Syn.* 457. *Bauh. Hist. v.* 1. 518, *not the fig. which is Arbutus alpina.*

V. Idæa foliis subrotundis major. *Ger. Em.* 1416. *f.*

V. Idæa secunda. *Clus. Hist. v.* 1. 61. *f.* 62.

On boggy mountainous heaths.

At Gamblesby, 6 miles from Penrith, Cumberland; also in Whinfield forest, Westmoreland. *Ray.* In the Highlands of Scotland. *Lightfoot.* Not rare in the Highlands; in low moist ground, as well as at the summits of the mountains. *Hooker.*

Shrub. *May.*

Taller than the preceding, with round branches. *Leaves* stalked, rather coriaceous, obovate, obtuse, occasionally somewhat pointed, entire, slightly revolute, veiny, smooth; glàucous beneath. *Fl.* several together, flesh-coloured, generally 4-cleft, with 8 *stamens*; the *anthers* horned. *Berries* large, blueish black, less acid, and less wholesome than the former. *Seeds* finely striated.

** *Leaves evergreen.*

3. V. *Vitis Idæa.* Red Whortle-berry. Cow-berry.

Clusters terminal, drooping; with ovate concave bracteas, longer than the flower-stalks. Leaves obovate, revolute, minutely toothed; dotted beneath. Corolla bell-shaped.

V. Vitis Idæa. *Linn. Sp. Pl.* 500. *Willd. v.* 2. 354. *Fl. Br.* 415. *Engl. Bot. v.* 9. *t.* 598. *Hook. Scot.* 118. *Fl. Dan. t.* 40. *Ehrh. Pl. Off.* 163. *Girard Obs.* 15. *t.* 2.

V. n. 1022. *Hall. Hist. v.* 1. 437.

Vaccinia rubra. *Ger. Em.* 1415. *f. Dod. Pempt.* 770. *f.*

Vitis Idæa sempervirens, fructu rubro. *Raii Syn.* 457. *Bauh. Hist. v.* 1. 522. *f.*

V. Idæa rubra. *Camer. Epit.* 136. *f.*

On dry stony, turfy heaths, or in mountainous woods, in Scotland, Wales, and the north of England. Plentiful in Derbyshire.

Shrub. *June.*

Roots creeping. *Stems* erect, 3 or 4 inches high, with a few irregular, wavy, leafy, downy branches at the summit. *Leaves* various in size, on short stalks, rigid, evergreen, obovate, blunt, notched, or somewhat pointed, convex, a little revolute, veiny; of a dark shining green above; pale, with glandular dots, beneath; more or less distinctly toothed towards the end, by no means entire. *Clusters* terminal, drooping, of several very pretty flesh-coloured *flowers*, without scent, each having a pale, oval, concave, fringed, deciduous *bractea*, at the base of its partial stalk. *Cal.* deeply 4-cleft, acute, fringed. *Cor.* rather cylindrical than bell-shaped, 4-cleft. *Anthers* double-pointed, without horns. *Berries* globose, deep red, astringent and acid, with much bitterness, which they lose by immersion, for some hours, in water, before they are made into pies, rob, or jelly. In the latter state this fruit is excellent for colds and sore throats; as well as for eating with venison, or other roast meat, as is practised generally in Sweden.

Linnæus had much difficulty to convince Haller that this plant was different from *Arbutus Uva Ursi*. See their letters on the subject of *Uva Ursi* in the *Correspondence of Linnæus, &c. v.* 2.

4. V. *Oxycoccus*. Marsh Whortle-berry. Cranberry.

Leaves ovate, entire, smooth, revolute, acute. Stems creeping, thread-shaped, smooth. Flowers terminal. Corolla deeply four-cleft.

V. Oxycoccus. *Linn. Sp. Pl.* 500. *Willd. v.* 2. 354. *Fl. Br.* 416. *Engl. Bot. v.* 5. *t.* 319. *Hook. Scot.* 119. *Fl. Dan. t.* 80. *Ehrh. Arb.* 33.

V. n. 1023. *Hall. Hist. v.* 1. 437.

Vaccinia palustria. *Ger. Em.* 1419. *f. Dod. Pempt.* 770. *f. Lob. Ic. v.* 2. 109. *f.*

Oxycoccus, seu Vaccinia palustria. *Raii Syn.* 267. *Bauh. Hist. v.* 1. 525. *f.*

Oxycoccum. *Cord. Hist.* 140. 2. *f.*

Schollera Oxycoccus. *Roth Germ. v.* 1. 170. *v.* 2. *p.* 1. 442.

In clear watery turfy bogs, among mosses.

Shrub. *June.*

Roots creeping, with many long fibres. *Stems* slender, wiry, trailing and creeping, with numerous leafy branches. *Leaves* alternate, erect, on short stalks, small, perennial, convex, rigid; glaucous underneath. *Flowers* very elegant, drooping, on simple, red stalks, several together at the end of each branch, and bearing a few scattered *bracteas*. *Cor.* divided, nearly to the bottom, into 4 oblong, reflexed segments. *Filam.* downy. *Anth.* with 2 long tubular points, but no horns. *Berries* spotted in an early

state, finally deep red, very acid, highly grateful, to most people, in tarts, or other preparations with sugar; though in Sweden they serve only for an acid liquor to boil silver plate in, to eat away the minute external particles of the copper alloy.

215. MENZIESIA. Menziesia.

Sm. Plant. Ic. fasc. 3. 56. *Comp.* 59. *Willd. Sp. Pl. v.* 2. 355. *Juss. in Ann. du Mus. v.* 1. 55.

Nat. Ord. *Bicornes.* Linn. 18. *Rhododendra.* Juss. 50. *Ericineæ.* DeCand. 72. sect. 3.

Cal. inferior, of 1 leaf, more or less deeply 4- or 5-cleft, permanent. *Cor.* of 1 petal, inflated, nearly ovate, deciduous; limb in 4 or 5 small, spreading, equal segments. *Filam.* 8 or 10, thread-shaped, equal, shorter than the corolla, inserted into the receptacle. *Anth.* oblong, without horns or crest; cloven at the base; opening by 2 pores at the summit. *Germ.* superior, roundish, furrowed. *Style* erect, angular, rather longer than the stamens. *Stigma* obtuse, with 4 or 5 small notches. *Caps.* elliptic-oblong, with 4 or 5 furrows, and as many valves and cells, opening from the top downward; partitions double, formed of the inflexed margins of the valves. *Seeds* numerous, small, oblong, acute, affixed to the ribs of a large central column.

Stem shrubby. *Leaves* scattered, evergreen or deciduous, with a callous or glandular tip. *Fl.* aggregate, stalked, drooping, purplish, rusty, or yellowish.

1. M. *cærulea.* Scottish Menziesia.

Leaves linear, obtuse, with cartilaginous teeth. Flower-stalks terminal, aggregate, simple. Flowers five-cleft, decandrous.

M. cærulea. *Swartz Tr. of L. Soc. v.* 10. 377. *t.* 30. *f.* A. *Comp.* 61. *Engl. Bot. v.* 35. *t.* 2469. *Hook. Scot.* 126.
Andromeda cærulea. *Linn. Sp. Pl.* 563. *Fl. Lapp. ed.* 2. 133. *t.* 1. *f.* 5. *Lapland Tour v.* 1. 272. *Fl. Dan. t.* 57.
A. taxifolia. *Pall. Ross. v.* 1. *p.* 2. 54. *t.* 72. *f.* 2.
Erica cærulea. *Willd. Sp. Pl. v.* 2. 393.
E. n. 22. *Gmel. Sib. v.* 4. 131. *t.* 57. *f.* 2.

On dry heathy moors, rare.
Near Aviemore in Strathspey, where it was first noticed by Mr. Brown of Perth. *Mr. Patrick Neill.* In the western isles of Shiant. *Mr. G. Don, and Dr. De Ramm.*
Shrub. *June, July.*

Stem determinately branched, 4 or 5 inches high, decumbent in the lower part, leafy above; branches round, scarred, not hairy or downy. *Leaves* crowded, spreading every way, on short single-jointed stalks, linear, flat, obtuse, single-ribbed, of a bright shining green, not half an inch long; rough-edged and finely toothed; marked with a narrow central furrow above; the rib downy beneath. *Fl.* 4 or 5 at the top of the highest branch, drooping, on long, simple, upright stalks, clothed with red glandular hairs, without *bracteas*. *Cal.* in 5 deep, acute, rather hairy divisions. *Cor.* much longer, ovate, of a livid or pale blueish red; ill coloured, from a dried specimen, in Pallas's figure.

The synonym of Buxbaum, *Cent.* 4. *t.* 43, seems, by the figure, very uncertain.

2. M. *polifolia*. Irish Menziesia.

Leaves ovate, revolute; downy and white beneath. Flowers four-cleft, octandrous, in terminal leafy clusters.

M. polifolia. *Juss. in Ann. du Mus. v.* 1. 55. *Ait. H. Kew. ed.* 2. *v.* 2. 360. *Sm. in Rees's Cycl. v.* 23. *n.* 3. *Hull v.* 1. 111.

M. Dabeoci. *Comp.* 61.

Erica Dabeoci. *Linn. Sp. Pl.* 509. *Fl. Br.* 420. *Engl. Bot. v.* 1. *t.* 35. *Huds.* 166. *Don H. Br.* 162.

E. Daboecia. *Willd. Sp. Pl. v.* 2. 383. *With.* 372.

E. cantabrica, flore maximo, foliis myrti, subtùs incanis. *Tourn. Inst.* 603. *Dill in Raii Syn.* 472.

E. hibernica, foliis myrti pilosis subtùs incanis. *Pet. Gazoph.* 6. *t.* 27. *f.* 4.

Andromeda Daboecia. *Linn. Syst. Veg. ed.* 13. 338. *ed.* 14. 406.

Vaccinium Cantabricum. *Huds. ed.* 1. 143.

On mountains in the west of Ireland, in a boggy soil. *Ray.*

On Croagh Patrick, in the county of Mayo. *A. B. Lambert, Esq.* Very abundant in the district of Cunnemara, county of Galway. *Wade Pl. Rar. Hib.* 28.

Shrub. *June, July.*

Stems bushy, 12 or 18 inches high, with many simple, upright, leafy branches, at length decumbent and spreading. *Leaves* numerous, rather crowded, on short stalks, ovate, half an inch long, slightly revolute, entire, single-ribbed, dark green, shining, and besprinkled with glandular hairs, above; densely clothed with snow-white cottony down, beneath; the lower ones opposite, and sometimes 3 together. *Clusters* terminal, simple, of numerous large, handsome, purplish-red, drooping *flowers*, each accompanied by a little, oblong, hairy, leafy *bractea*. *Cal.* in 4 deep, acute, hairy, viscid segments. *Cor.* ovate, with 4 blunt angles, and 4 recurved segments. *Stam.* 8. *Caps.* of 4 cells, with partitions from the edges of the valves, which is never the case in any true *Andromeda*, nor have the *flowers*, as far as I have seen, more than 4 segments.

216. CALLUNA. Ling.

Salisb. Tr of L. Soc. v. 6. 317. *Hull v.* 1. 112, 113. *Hook. Scot.* 116. Erica. *Gærtn t.* 63. *Lam. t.* 287. *f.* 1.

Nat. Ord. *Bicornes.* Linn. 18. *Ericæ.* Juss. 51. *Ericineæ.* DeCand. 72. sect. 1. *N.* 217 the same.

Cal. inferior, permanent, double; *outermost* of 4 ovate-oblong, thick, blunt, fringed leaves; *inner* of 4 elliptic-lanceolate, concave, coloured, polished leaves, concealing the corolla. *Cor.* of 1 petal, bell-shaped, deeply 4-cleft, erect, much shorter than the inner calyx. *Filam.* from the receptacle, thread-shaped, short, curved. *Anth.* terminal, erect, lanceolate, acute, with 2 lateral oblong orifices, each combined, before the discharge of the pollen, with the similar orifice of its neighbour at each side; the base bearing 2 deflexed bristles. *Germ.* superior, orbicular, depressed, furrowed. *Style* nearly erect, cylindrical, the length of the inner calyx. *Stigma* capitate, with 4 notches. *Caps.* concealed by the inflexed, permanent, inner calyx, orbicular, a little depressed, with 4 furrows, 4 simple valves, and 4 cells; the partitions simple, flat, alternate, and unconnected with the valves, fixed vertically to a large, ovate, pitted, permanent, central *column. Seeds* numerous, small, elliptic-oblong, dotted, attached to the column.

Shrubby, of humble growth, with little, opposite, imbricated, evergreen *leaves*, and small, elegant, clustered, drooping, rose-coloured *flowers.*

Although there is but one known species of this genus, the most common, if not perhaps the original, *Erica* of Dioscorides, Tournefort, or Linnæus, its generic distinctions are so very important, that I gladly concur with Mr. Salisbury, who first pointed out those distinctions. To avoid the inconvenience of giving a new generic appellation to the hundreds of plants, familiar to every body as *Ericæ*, or Heaths, he has judiciously called our common Ling, *Calluna*, from καλλυνω; which is doubly suitable, whether, with Mr. Salisbury and Dr. Hull, we take it to express a *cleansing* property, brooms being made of Ling; or whether we adopt the more common sense of the word, to *ornament* or *adorn*, which is very applicable to the flowers. Gærtner indeed was so struck with the peculiar construction of the *capsule*, that he adds a mark of admiration to his description. He takes the plant as the type of *Erica*,

not aware perhaps that no other supposed *Erica* has been found to have such a *capsule*, or indeed such a *calyx*.

1. C. *vulgaris*. Common Ling.

C. vulgaris. *Hull v.* 1. 114. *Hook. Scot.* 119.
Erica vulgaris. *Linn. Sp. Pl.* 501. *Willd. v.* 2. 373. *Fl. Br.* 417. *Engl. Bot. v.* 15. *t.* 1013. *Curt. Lond. fasc.* 5. *t.* 30. *Raii Syn.* 470. *Bull. Fr. t.* 341. *Fl. Dan. t.* 677. *Ger. Em.* 1380. *f. Ehrh. Pl. Off.* 173.
E. n. 1012. *Hall. Hist. v.* 1. 432.
Erica. *Matth. Valgr. v.* 1. 137. *f. Camer. Epit.* 75. *f. Trag. Hist.* 952. *f. Fuchs. Hist.* 254. *f.*

β. E. vulgaris hirsuta. *Raii Syn.* 471. *Don H. Br.* 56.
E. ciliaris. *Huds. ed.* 1. 144; *not of Linnæus.*

Common every where on dry moors, heaths, and open barren wastes; as well as in woods where the soil is sandy or turfy.
Shrub. *June, July.*
Stems bushy, repeatedly and irregularly branched. *Leaves* deep green, minute, sessile, acute, keeled, somewhat arrow-shaped, closely imbricated on the young branches, making a quadrangular figure, like a close-beaten chain; they are generally smooth, but in β densely hoary all over. *Fl.* stalked, drooping, in longish unilateral clusters, soon overtopped by leafy shoots. *Inner calyx*, which is the most conspicuous part of the flower, of a shining permanent rose-colour. *Cor.* paler and much shorter. *Anth.* not reaching beyond the corolla. *Style* longer.
Grouse and other birds, as well as some quadrupeds, eat the seeds and young shoots.
There is a white-flowered variety; and a very beautiful double red one, cultivated in gardens, whose *flowers*, from a copious multiplication of the corolla, resemble little roses.

217. ERICA. Heath.

Linn. Gen. 192. *Juss.* 160. *Fl. Br.* 417. *Tourn. t.* 373. *Lam. t.* 287. *f.* 2—5.

Nat. Ord. see *n.* 216.

Cal. inferior, of 4 ovate-oblong, permanent leaves. *Cor.* of 1 petal, ovate-oblong or bell-shaped, more or less elongated, 4-cleft, withering. *Filam.* from the receptacle, capillary. *Anth.* terminal, erect, cloven, opening by lateral orifices, which adhere to those of the next anther till the pollen is discharged. *Germ.* superior, roundish. *Style* thread-shaped, erect. *Stigma* obtuse. *Caps.* roundish, with 4 furrows, 4 cells, and 4 valves, each bearing a partition from the centre. *Seeds* numerous, minute.

In some species the *anthers* bear at the base a pair of horns, in others a double notched crest. The above description of the capsule agrees with all our English, and numerous exotic, European as well as Cape, species. There are some indeed whose partitions are formed from the margins of the valves. The most able botanists however scruple to divide so natural a genus, nor is any one, as yet, furnished with sufficient materials to attempt it.

The *stem* is shrubby. *Leaves* evergreen, opposite, or whorled, mostly linear. *Fl.* numerous and beautiful, on simple bracteated stalks. *Cor.* of various shapes, sizes and colours; never blue. No species is wild in America.

1. E. *Tetralix.* Cross-leaved Heath.

Anthers horned. Style nearly concealed. Corolla ovate. Leaves fringed, four in a whorl. Flowers in round tufts.

E. Tetralix. *Linn. Sp. Pl.* 502. *Willd. v.* 2. 368. *Fl. Br.* 418. *Engl. Bot. v.* 15. *t.* 1014. *Curt. Lond. fasc.* 1. *t.* 21. *Hook. Scot.* 119. *Fl. Dan. t.* 81.

E. brabantica, folio coridis hirsuto quaterno. *Raii Syn.* 471.

E. ex rubro nigricans scoparia. *Bauh. Pin.* 486.

E. decima tertia. *Clus. Hist. v.* 1. 46.

E. tertia. *Dalech. Hist.* 186. *f.*; *but not of Dodonæus.*

E. anglicana parva, capitulis hirsutis. *Bauh. Hist. v.* 1. *p.* 2. 358. *f.*

On heathy boggy ground.

Shrub. *July, August.*

Roots creeping. *Stems* erect, from 4 to 6 or 8 inches high, leafy, furrowed, hairy and downy, branched at the bottom. *Leaves* crowded, spreading, 4 in a whorl, stalked, ovate, or lanceolate, revolute, downy, and bristly with glandular hairs; glaucous beneath. *Fl.* remarkable for their delicate wax-like hue, of every shade of rose-colour, sometimes snow-white, on hairy cottony stalks, collected into a dense, round, terminal, capitate *cluster*, all elegantly pendulous towards one side. *Cal.* oblong, downy and hairy, with 2 *bracteas* at the base. *Cor.* oblong, a little downy near the mouth. *Stigma* slightly protruding. *Anth.* concealed, each with a pair of simple bristles, or horns, at the base. Valves of the *capsule* hairy, concave, with a fixed partition from the centre of each.

It is wonderful that this most elegant, and not uncommon, plant is scarcely delineated at all by the old authors; nor by any of them correctly.

2. E. *cinerea.* Fine-leaved Heath.

Anthers crested. Style a little prominent. Stigma capitate. Corolla ovate. Leaves three in a whorl.

E. cinerea. *Linn. Sp. Pl.* 501. *Willd. v.* 2. 378. *Fl. Br.* 418. *Engl. Bot. v.* 15. *t.* 1015. *Curt. Lond. fasc.* 2. *t.* 25. *Hook. Scot.* 119. *Fl. Dan. t.* 38. *Bull. Fr. t.* 237.
E. tenuifolia. *Ger. Em.* 1282. *f. Raii Syn.* 471.
E. coridis folio sexta. *Clus. Hist. v.* 1. 43. *f. Dalech. Hist.* 189. *f.*
E. pumila, calyculato unedonis flore. *Lob. Ic. v.* 2. 212. *f.*
On dry turfy heaths, every where, plentifully.
Shrub. *July—October.*
Stem a foot high, or more, with numerous, upright, round, hoary, flowery and leafy branches. *Leaves* linear-lanceolate, flat above, entire, smooth, with a dorsal furrow, 3 together, on short stalks, and accompanied by short, leafy, axillary young shoots. *Fl.* numerous, in dense leafy *panicles*, drooping. *Bracteas* 2, at the base of the *calyx*, which is smooth, acute, somewhat membranous. *Cor.* crimson, with a tinge of blue or grey, membranous and everlasting; occasionally pure white. *Anth.* with a double, serrated, dependent crest. *Stigma* with 4 notches. *Capsule* like the last, but smooth.

3. E. *vagans*. Cornish Heath.

Anthers simple, deeply cloven, prominent as well as the style. Corolla bell-shaped. Leaves four in a whorl. Flowers on simple, crowded, axillary stalks.

E. vagans. *Linn. Mant.* 2. 230. *Willd. Sp. Pl. v.* 2. 412. *With.* 373. *Fl. Br.* 419. *Engl. Bot. v.* 1. *t.* 3. *Dicks. Dr. Pl.* 62.
E. multiflora. *Huds.* 166.
E. didyma. *With. ed.* 2. 400.
E. folio corios multiflora. *Raii Syn.* 471; *but not of J. Bauhin.*

On heaths in Cornwall, abundantly.
Shrub. *July, August.*
Stem woody, 1½ or 2 feet high, copiously and determinately branched, with a smooth, pale, deciduous bark. *Leaves* evergreen, smooth, linear, acutely revolute, 4 in a whorl; convex on the upper side. *Flower-stalks* axillary, capillary, coloured, crowded together, in great numbers, for a considerable space about the middle of each branch, simple, single-flowered, rather shorter than the leaves, each bearing a pair of small *bracteas* towards the middle. *Calyx-leaves* ovate, smooth, coloured. *Cor.* red, often white, bell-shaped, with a deeply 4-cleft, spreading limb. *Anthers* small, of 2 distinct ovate lobes, without any appendages, having an oval orifice at each side. *Stigma* obtuse, with 4 slight notches. *Caps.* smooth.
Our early botanists, even Ray himself, confounded this with the Linnæan *E. multiflora*, common in the south of Europe.

218. DAPHNE. Mezereon, and Spurge-laurel.

Linn. Gen. 192. *Juss.* 77. *Fl. Br.* 420. *Lam. t.* 290.
Thymelæa. *Tourn. t.* 366. *Gærtn. t.* 39.

Nat. Ord. *Vepreculæ.* Linn. 31. *Thymelææ.* Juss. 25.

Cal. inferior, of 1 leaf, tubular, withering; tube cylindrical, coriaceous, longer than the limb, imperforate at the base, containing the stamens; limb in 4 deep, ovate, spreading, coloured segments. *Pet.* none. *Filam.* short, in 2 rows, from about the middle of the tube. *Anth.* roundish-oblong, of 2 cells, simple, contained within the tube. *Germ.* superior, ovate. *Style* very short, terminal. *Stigma* capitate, depressed, entire. *Berry* oval, of 1 cell. *Seed* solitary, pendulous, oval, large, with a thin brittle skin.

Shrubs, with a silky inner bark. *Leaves* simple, undivided, entire. *Fl.* highly fragrant. Whole plant generally intensely acrid and dangerous.

1. D. *Mezereum.* Common Mezereon, Spurge-olive.

Flowers naked on the stem, sessile, about three together. Leaves lanceolate, deciduous.

D. Mezereum. *Linn. Sp. Pl.* 509. *Willd. v.* 2. 415. *Fl. Br.* 420. *Engl. Bot. v.* 20. *t.* 1381. *Woodv. Med. Bot. t.* 23. *Meyrick Misc. Bot. t.* 1. *Purton v.* 3. 33. *Fl. Dan. t.* 268. *Bull. Fr. t.* 1. *Ehrh. Pl. Off.* 313.
Daphnoides. *Matth. Valgr. v.* 2. 557. *f. Camer. Epit.* 937. *f. Fuchs. Hist.* 227. *f.*
D. vulgare. *Gesn. Fasc.* 1. 9. *t.* 3. *f.* 10.
Thymelæa. *Trag. Hist.* 957. *f.*
Th. n. 1024. *Hall. Hist. v.* 1. 438.

In woods, but rare.
Near Andover plentifully. *Miller.* At Laxfield, Suffolk. *Mr. Woodward.* In Needwood forest, Staffordshire; Mr. Pitt. *Withering.* At Eastham and Stanford, Worcestershire. *Rev. E. Whitehead.* Near Appleton, Berks. *Professor Williams.* In Witch-wood forest, Oxfordshire; Mr. Isaac Wheeler of Oxford. *Purton.*
Shrub. *March.*
Stem bushy, 4 or 5 feet high, with upright, alternate, smooth, tough and pliant branches; leafy while young. *Leaves* scattered, stalked, lanceolate, smooth, 2 inches long, appearing after the flowers, and soon accompanied by flower-buds for the next season. *Fl.* highly, and to many persons too powerfully, fragrant, seated in little tufts on the naked branches, with several brown, smooth, ovate *bracteas* underneath. *Calyx* like

a *corolla* in texture, crimson all over; the tube externally hairy. *Berries* scarlet, the favourite food of some species of Finch, *Loxia*. There is a variety with white *flowers*, and the *berries* also vary to a yellow or orange hue.

2. D. *Laureola*. Spurge-laurel.

Clusters axillary, simple, each of about five flowers, drooping, shorter than the smooth, obovate-lanceolate, evergreen leaves. Calyx obtuse.

D. Laureola. *Linn. Sp. Pl.* 510. *Willd. v.* 2. 418. *Fl. Br.* 421. *Engl. Bot. v.* 2. *t.* 119. *Hook. Scot.* 119. *Jacq. Austr. t.* 183. *Bull. Fr. t.* 37. *Ehrh. Arb.* 153.

Daphnoides verum, vel Laureola, *Gesn. Fasc.* 1. 7. *t.* 6. *f.* 9.

Thymelæa n. 1025. *Hall. Hist. v.* 1. 439.

Laureola. *Raii Syn.* 465. *Dod. Pempt.* 365. *f. Ger. Em.* 1404, *f, f.*

L. et Daphnoides. *Lob. Ic.* 368. *f, f.*

In woods, thickets, and hedges.

Shrub. *March.*

Whole plant very smooth. *Stem* 2 or 3 feet high, with round, pale brown, upright, tough and pliant branches, crowned with tufts of evergreen *leaves*, elegantly drooping in all directions, and about 2 or 3 inches long, on short *footstalks*. *Fl.* deep green, with orange *anthers*, 4 of which are just visible in the throat of the *calyx*. Their scent, resembling saffron, with an overpowering sweetness, is perceptible in an evening only, and has been observed by very few people. An oval, concave *bractea* accompanies each short partial stalk, at the base. *Berry* oval, black. Every part is very acrid, producing, like the Mezereon, a burning heat in the mouth and throat.

The charming *D. pontica*, long very little known, and now so hardy in our gardens, has many-flowered upright *clusters*, each of whose long partial stalks bears 2 *flowers*; by which it differs essentially from our *Laureola*. The *calyx* moreover is taper-pointed. The characters of these two species are not well contrasted by Linnæus or his copiers.

219. ACER. Maple.

Linn. Gen. 546. *Juss.* 251. *Fl. Br.* 421. *Tourn. t.* 386. *Lam. t.* 844. *Gærtn. t.* 116.

Nat. Ord. *Trihilatæ*. Linn. 23. *Accra*. Juss. 66.

Cal. inferior, of 1 leaf; flat and orbicular at the base; the margin in 5 deep, acute, oblong, permanent segments. *Pet.* 5, obovate-oblong, of the shape and substance of the segments of the calyx, and alternate with them. *Filam.* awl-shaped, inserted into the calyx. *Anth.* peltate, round-

ish, of 2 lobes. *Germ.* superior, compressed, of 2 lobes. *Style* cylindrical, gradually elongated. *Stigm.* 2, or 3, pointed, revolute. *Caps.* as many as the stigmas, combined at the base, roundish, compressed, each terminating in a rounded, firm, membranous, spreading wing. *Seeds* 1 or 2, roundish; *cotyledons* folded.

The *anthers* are imperfect in some of the flowers, the *pistils* in some others, but many flowers are perfect in both organs. The divisions of the *calyx*, as well as the *petals*, vary in number, and the *stamens* accord with them.

Trees or *shrubs*, with opposite *branches* and *leaves*; the latter lobed, cut, mostly palmate, stalked, smooth, deciduous, without *stipulas*. *Fl.* green or yellowish, numerous, in drooping or upright, often downy, *clusters*. *Wood* valuable, often beautiful.

*1. A. *Pseudo-platanus*. Greater Maple, or Sycamore.

Leaves five-lobed, unequally serrated. Clusters pendulous.

A. Pseudo-platanus. *Linn. Sp. Pl.* 1495. *Willd. v.* 4. 983. *Fl. Br.* 422. *Engl. Bot. v.* 5. *t.* 303. *Hook. Scot.* 120. *Ehrh. Arb.* 80. *Fl. Dan. t.* 1575.

A. n. 1029, 5. *Hall. Hist. v.* 1. 443.

A. majus. *Raii Syn.* 470. *Ger. Em.* 1484. *f.* *Gesn. Fasc.* 1. 15. *t.* 8. *f.* 18. *Dod. Pempt.* 840. *f.*

A. montanum candidum. *Bauh. Pin.* 430. *Duham. Arb. v.* 1. 27. *t.* 9.

A. latifolium. *Clus. Hist. v.* 1. 9. *f.* 10.

Platanus. *Trag. Hist.* 1125. *f.*

β. var. 2. *With.* 369.

In hedges, and about houses, common, but not truly wild.

Tree. *May.*

A large, handsome *tree*, of quick growth, with a smooth ash-coloured bark, and round, spreading branches. *Leaves* on long footstalks, 4 or 5 inches broad, palmate, with 5 acute, variously serrated lobes; the middle one largest; 2 outermost very small; veiny, smooth, except a little hairy tuft at the base; pale or glaucous beneath. *Clusters* axillary, solitary, pendulous, compound, many-flowered, downy. *Fl.* green, the size of a currant-blossom. *Anthers* hairy between the lobes. *Capsules* with 2, or 3, broad spreading wings, above an inch long.

The wood is white and soft, useful for many purposes. The sap is said to yield some portion of sugar, and to be made into wine in the Highlands of Scotland.

Our variety β, pointed out by the late Mr. Andrew Caldwell of Dublin, appears to have more elongated, distantly serrated,

lobes to the leaves, which are more or less glaucous beneath; but this latter circumstance, like the degree of hairiness of the *stamens*, is a variable character.

2. A. *campestre*. Common Maple.

Leaves five-lobed, obtuse, somewhat cut. Clusters corymbose, erect.

A. campestre. *Linn. Sp. Pl.* 1497. *Willd. Sp. Pl. v.* 4. 989. *Fl. Br.* 422. *Engl. Bot. v.* 5. *t.* 304. *Hook. Scot.* 120. *Fl. Dan. t.* 1288.
A. campestre et minus. *Bauh. Pin.* 431. *Duham. Arb. v.* 1. 28. *t.* 10. *f.* 7.
A. n. 1029, 6. *Hall. Hist. v.* 1. 443.
A. minus. *Raii Syn.* 470. *Ger. Em.* 1484. *f.* *Dod. Pempt.* 840. *f.*
Acer. *Trag. Hist.* 1123 *f.*
Massholder Tragi. *Gesn. Fasc.* 1. 16. *t.* 9. *f.* 19.
β. Acer campestre et minus, fructu rubente. *Vaill. Par.* 2. *Dill. in Raii Syn.* 470.

In hedges and thickets common; rare in Scotland, and the north of England.
Tree. *May, June.*
A rather small *tree*, of much more humble growth than the preceding, with more spreading branches; the bark corky and full of fissures; that of the branches smooth. *Leaves* about $1\frac{1}{2}$ inch wide, downy while young, like their *footstalks*, obtusely 5-lobed, here and there notched, sometimes quite entire. *Clusters* terminating the young shoots, hairy, erect, short and somewhat corymbose. *Fl.* green, not unlike those of the preceding. *Anth.* hairy between the lobes. *Caps.* downy, horizontally spreading nearly in a right line, with smooth, oblong, reddish wings.
The wood is compact, of a fine grain, sometimes beautifully veined, celebrated among the ancient Romans for tables, though now superseded by Mahogany, and even our native Oak.

OCTANDRIA TRIGYNIA.

220. POLYGONUM. Persicaria, Bistort, Knot-grass, and Buckwheat.

Linn. Gen. 195. *Juss.* 82. *Fl. Br.* 423. *Tourn. t.* 290. *Lam. t.* 315. *Gærtn. t.* 119.
Persicaria. *Tourn. t.* 290. *Gærtn. t.* 119.
Bistorta. *Tourn. t.* 291.
Fagopyrum. *Tourn. t.* 290. *Gærtn. t.* 119.

Nat. Ord. *Holeraceæ.* Linn. 12, ε. *Polygoneæ.* Juss. 28.

Cal. inferior, turbinate, more or less coloured, in 5 deep, ovate, obtuse, permanent segments. *Cor.* none. *Filam.* various in number, from 5 to 6, 7, or most generally 8, awl-shaped, very short. *Anth.* roundish, incumbent. *Germ.* superior, roundish, either triangular or compressed. *Styles* generally 3, in those with a compressed germen only 2, thread-shaped, very short, in some species partly combined. *Stigmas* simple. *Peric.* none, except the closed calyx. *Seed* solitary, either triangular or compressed, pointed; *embryo* enveloped in a farinaceous *albumen.*

Generally herbaceous, with knotty, alternately branching *stems.* *Leaves* alternate, simple, revolute in the bud; either sheathing at the base, or attached to an interior, membranous, ribbed, tubular or sheathing, *stipula.* *Fl.* axillary, or terminal, simply stalked, clustered, or spiked; either red, or particoloured with red, green and white. *Seed* brown, often polished.

* *Styles usually but 2.*

1. P. *amphibium.* Amphibious Persicaria.

Styles two, united half way up. Stamens five. Spike ovate.

P. amphibium. *Linn. Sp. Pl.* 517. *Willd. v.* 2. 443. *Fl. Br.* 423. *Engl. Bot. v.* 7. *t.* 435. *Curt. Lond. fasc.* 4. *t.* 28. *Hook. Scot.* 121. *Fl. Dan. t.* 282.
P. n. 1565. *Hall. Hist. v.* 2. 261.
Persicaria salicis folio perennis. *Raii Syn.* 145.
Potamogeton salicis folio. *Bauh. Pin.* 193.
P. angustifolium. *Ger. Em.* 821. *f.*
P. altera. *Dalech. Hist.* 1008. *f.*
P. sive Stachyites. *Lob. Ic.* 307. *f.*

In ponds and ditches, or about their banks.
Perennial. *July, August.*
Root creeping, with numerous whorls of white or red fibres. *Stem* round, branching in the lower part, leafy. *Leaves* stalked, generally floating, ovate-lanceolate, more or less acute, single-ribbed, minutely serrated, smooth, bright green; slightly heart-shaped at the base. *Stipula* embracing the stem within the *footstalk*, abrupt, wavy, smooth. *Flowers* crimson, in elegant ovate, dense, stalked, bracteated *spikes*, raised above the surface of the water. *Stam.* 5, alternate with the 5 segments of the calyx, variable in length. *Styles* 2, combined in their lower half. *Stigmas* globular, red. *Seed* ovate, compressed, with 2 obtuse edges.
When the *roots* are thrown out of the water, with the mud of ditches, the *stems* become shortened, and upright; the *leaves* narrower, and, as well as the *stipulas*, hairy. The *flowers* are in that case sparingly produced. This is the β of Willdenow; the *Persicaria acida* of Jungermann. See *Linn. Correspond. v.* 2. 367.
Water fowl are said by Curtis to be fond of the seeds.

2. P. *Persicaria.* Spotted Persicaria.

Styles two, united half way up. Stamens six. Clusters dense, ovate-oblong, erect, on smooth stalks. Stipulas fringed.

P. Persicaria. *Linn. Sp. Pl.* 518. *Willd. v.* 2. 446. *Fl. Br.* 424. *Engl. Bot. v.* 11. *t.* 756. *Curt. Lond. fasc.* 1. *t.* 23. *Hook. Scot.* 121. *Fl. Dan. t.* 702.
P. n. 1557. *Hall. Hist. v.* 2. 257.
Persicaria. *Fuchs. Hist.* 631. *f.* 630. *Dod. Pempt.* 608. *f.*
P. altera. *Matth. Valgr. v.* 1. 534. *f. Camer. Epit.* 353. *f.*
P. mitis, maculosa et non maculosa. *Bauh. Pin.* 101.
P. maculosa. *Raii Syn.* 145. *Ger. Em.* 445. *f. Pet. H. Brit. t.* 3. *f.* 7.
P. mitis. *Bauh. Hist. v.* 3. *p.* 2. 771. *f.*
P. mitis maculosa. *Lob. Ic.* 315. *f.*
β. P. folio subtùs incano. *Tourn. Inst.* 510. *Dill. in Raii Syn.* 145. *Pet. H. Brit. t.* 3. *f.* 8.
Polygonum incanum. *Willd. Sp. Pl. v.* 2. 446.
P. Persicaria γ. *Linn. Sp. Pl.* 518.
P. n. 1556. *Hall. Hist. v.* 2. 257.
γ. Persicaria folio Salicis albæ vulgaris. *Dill. in Raii Syn.* 145.
P. argentea. *Pet. H. Brit. t.* 3. *f.* 9.

In ditches, wet fields, and watery places, common.
Annual. *July, August.*
Root fibrous. *Stem* erect, sometimes throwing out radicles from the lowermost joints, 1 to 2 feet high, branched, leafy, round, smooth, often reddish, slightly swelled in general above each

joint. *Leaves* on short stalks, spreading, a little drooping, lanceolate, entire, rough on the rib and margin, mostly marked, about the middle, with a black, crescent-shaped spot; the under surface in β, and both in some degree in γ, are clothed with close, white, cottony, or silvery, hairs; but the slightest experience or inquiry will determine them to be mere varieties. The *stipulas* are rather short and wide, membranous, strongly ribbed, downy, partly fringed. *Clusters* several, solitary, terminal and axillary, erect, dense, obtuse, their *stalks* smooth, various in length, as the clusters are in size. *Fl.* rose-coloured, or whitish. *Cal.* with 5 segments; Haller often found but 4 in the hoary variety. *Stam.* always 6. *Styles* united full half way up; occasionally 3. *Seed* obscurely triangular.

3. P. *lapathifolium.* Pale-flowered Persicaria.

Styles two, distinct. Stamens six. Flower-stalks rough. Stipulas beardless. Seeds concave at each side.

P. lapathifolium. *Linn. Sp. Pl.* 517. *Willd. v.* 2. 442. *Fl. Br.* 425. *Engl. Bot. v.* 20. *t.* 1382. *Sym.* 96. *Hook. Scot.* 121. *Ait. H. Kew. ed.* 2. *v.* 2. 417. *Relh.* 156. *Sibth.* 129. *Abbot* 89.

P. pensylvanicum. *Curt. Lond. fasc.* 1. *t.* 24, 25. *Huds. ed.* 1. 148.

P. persicaria ζ. *Huds. ed.* 2. 170.

P. pallidum. *With.* 381. *Hull* 85.

Persicaria mitis major, foliis pallidioribus D. Bobarti. *Raii Syn.* 145. *Pet. H. Brit. t.* 3. *f.* 11.

Hydropiper. *Lob. Ic.* 315. *f. Ger. Em.* 445. *f.*

β. With red stems and flowers. *Curt. under t.* 25.

Persicaria major, lapathi foliis, calyce floris purpureo. *Tourn. Inst.* 510.

γ. Stem spotted. *Curt. t.* 25.

Persicaria latifolia geniculata, caulibus maculatis D. Rand. *Raii Syn.* 145.

δ. Leaves hoary beneath. *Curt. under t.* 25. *From the author.*

Persicaria maculosa procumbens, foliis subtùs incanis. *Dill. in Raii Syn.* 146. *Pet. H. Brit. t.* 3. *f.* 10.

In cultivated ground, especially such as is rich and moist, and on dunghills.

Annual. *July, August.*

Root fibrous. *Stem* with numerous, spreading, often decumbent, branches, swelled above the joints, various in luxuriance. *Leaves* ovate-lanceolate, acute, rough-edged, sometimes hoary; sometimes marked with a black spot in the middle; always thickly sprinkled at the back with glandular dots; tapering at the base into short roughish *footstalks.* *Stipulas* obtuse, ribbed, occasionally very slightly fringed. *Flower-stalks* rough with minute glandular points. *Clusters* dense, short, obtuse, erect, finally drooping. *Fl.* either greenish white, or reddish. *Stam.* shorter

than the *calyx*, always 6, though the segments of the calyx are but 5. *Styles* separate to the base, except a very small portion, forming an abrupt beak to the *seed*, which is orbicular, hollowed out at each side, thick at the edges, sometimes triangular, when probably there are 3 styles.

4. P. *Hydropiper*. Biting Persicaria.

Styles two, united half way up. Stamens six. Clusters lax, interrupted, drooping. Stem erect. Leaves lanceolate, wavy, without spots.

P. Hydropiper. *Linn. Sp. Pl.* 517. *Willd. v.* 2. 444. *Fl. Br.* 426. *Engl. Bot. v.* 14. *t.* 989. *Curt. Lond. fasc.* 1. *t.* 26. *Hook. Scot.* 121. *Bull. Fr. t.* 127. *Fl. Dan. t.* 1576.

P. n. 1554. *Hall. Hist. v.* 2. 256.

Persicaria acris, sive Hydropiper. *Bauh. Hist. v.* 3. *p.* 2. 772. *f.* *Raii Syn.* 144.

P. vulgaris. *Pet. H. Brit. t.* 3. *f.* 5.

Hydropiper. *Fuchs. Hist.* 842. *f.* 843. *Matth. Valgr. v.* 1. 533. *f.* *Camer. Epit.* 352. *f.*

Common every where in ditches and clear watery places.

Annual. *September.*

Root fibrous, whorled, as in most of the genus. *Herb* smooth. *Stem* erect, 2 feet high, branched, round, more or less red and shining; swelled above each joint. *Leaves* lanceolate, undulated, stalked, pale shining green, without spots. *Stipulas* fringed with unequal bristles, very obscurely ribbed. *Clusters* terminal, long and slender, curved, interrupted, leafy in their lower part; their partial *flower-stalks* erect, close, longer than in the two preceding species, and accompanied by tubular, sheathing, abrupt, coloured *bracteas*. *Cal.* 4- or 5-cleft, variegated with red, white and green, covered with glandular dots, such as are scattered, more or less universally, over the whole herbage, and in which its acrid quality resides. *Stamens* 6, rarely 8. *Styles* united nearly half way up. *Stigmas* capitate, often red, sometimes 3. *Seeds* compressed, purplish black.

5. P. *minus*. Small Creeping Persicaria.

Styles two, combined. Stamens six. Clusters lax, slender, nearly upright. Stem trailing at the base. Leaves linear-lanceolate, flat.

P. minus. *Huds. ed.* 1. 148. *Willd. Sp. Pl. v.* 2. 445. *Fl. Br.* 426. *Engl. Bot. v.* 15. *t.* 1043. *Curt. Lond. fasc.* 1. *t.* 28. *Hook. Scot.* 121.

P. Persicaria β. *Linn. Sp. Pl.* 518.

P. Hydropiper β. *Huds.* 170.

P. intermedium. *Ehrh. Herb.* 94.

P. n. 1555. *Hall. Hist. v.* 2. 257.
Persicaria pusilla repens. *Ger. Em.* 446. *f. Lob. Ic.* 316. *f. Raii Syn.* 145. *Dalech. Hist.* 1041. *f.*
P. minor. *Bauh. Pin.* 101. *Moris. v.* 2. 589. *sect.* 5. *t.* 29. *f.* 5.
P. angustifolia. *Bauh. Pin.* 101. *Prodr.* 43.
P. angustifolia, ex singulis geniculis florens. *Raii Syn.* 145.

On gravelly watery commons.
About London in various places, as Tothill fields, Blackheath, Putney common, &c. On Costesy common, near Norwich. Found by Dr. Stokes in a gravel-pit on Malvern chace, Worcestershire.
Annual. *September.*
Whole plant much smaller than *P. Hydropiper,* to which it is most nearly allied, but the distinctions pointed out by Mr. Curtis are constant and all-sufficient. The *stems* are branched from the very bottom, decumbent at the base, and taking root at several of the lower joints; tumid above each joint, like the foregoing. *Leaves* very narrow, and flat, on short stalks, smooth, with scarcely any lateral veins. *Stipulas* copiously fringed. *Clusters* lax and slender, scarcely curved, on smooth slender stalks. *Bracteas* funnel-shaped, fringed, sheathing the partial stalks. *Fl.* small, pale, reddish externally, without glandular dots. *Styles* entirely combined, with 2 or 3 obtuse spreading *stigmas. Seed* black, compressed, or bluntly triangular.

** *Styles* 3.

6. P. *Bistorta.* Great Bistort, or Snake-weed.

Stem simple, with a single, spiked, cluster of flowers. Leaves ovate, wavy, running down into the footstalks.

P. Bistorta. *Linn. Sp. Pl.* 516. *Willd. v.* 2. 441. *Fl. Br.* 417. *Engl. Bot. v.* 8. *t.* 509. *Curt. Lond. fasc.* 1. *t.* 22. *Woodv. Med. Bot. t.* 34. *Hook. Scot.* 120. *Dreves Bilderb. t.* 39. *Bull. Fr. t.* 314. *Fl. Dan. t.* 421.
P. n. 1559. *Hall. Hist. v.* 2. 258.
Bistorta. *Matth. Valgr. v.* 2. 296. *f. Camer. Epit.* 683. *f. Dod. Pempt.* 333. *f.*
B. major. *Ger. Em.* 399. *f. Raii Syn.* 147.
B. major, radice minùs intortâ. *Bauh. Pin.* 192. *Mill. Ic.* 44. *t.* 66.
B. britannica. *Lob. Ic.* 292. *f.*
Serpentaria mas, seu Bistorta. *Fuchs. Hist.* 773. *f.*
Colubrina. *Brunf. Herb. v.* 1. 61, 62. *f, f.*

In fertile pastures and meadows; most common in the North.
Perennial. *June.*
Root creeping, fleshy, or rather woody, often bent or zigzag, powerfully astringent. *Stems* solitary, simple, erect, straight, leafy, 1½ or 2 feet high, round, striated, smooth. *Leaves* smooth, ovate, wavy, bluntish; glaucous beneath; radical ones some-

what heart-shaped, and nevertheless decurrent, making a narrow wing to their *footstalks*. *Footstalks* of the stem-leaves tubular and sheathing, each crowned with a membranous jagged *stipula*. *Cluster* terminal, leafless, erect, cylindrical, dense, many-flowered, interspersed with membranous, notched, brown *bracteas*. *Partial stalks* simple, very slender. *Cal.* rose-coloured, deeply 5-cleft, obtuse, spreading. *Stam.* 8, longer than the calyx. *Styles* quite distinct, with small obtuse *stigmas*. *Seed* triangular, black and shining.

7. P. *viviparum*. Alpine Bistort.

Stem simple, with a single, spiked, cluster of flowers. Leaves lanceolate, revolute, with copious, prominent, marginal veins.

P. viviparum. *Linn. Sp. Pl.* 516. *Willd. v.* 2. 441. *Fl. Br.* 428. *Engl. Bot. v.* 10. *t.* 669. *Hook. Lond. t.* 81. *Scot.* 120. *Fl. Dan. t.* 13. *Ehrh. Phyt.* 34.

P. n. 1558. *Hall. Hist. v.* 2. 258.

P. n. 34. *Gmel. Sib. v* 3. 44. *t.* 7. *f.* 2.

Bistorta minor. *Ger. Em.* 399. *f. Raii Syn.* 147. *Clus. Pan.* 479. *f. Camer. Epit.* 684. *f. Moris. v.* 2. 585. *n.* 3; *also alpina n.* 5. *sect.* 5. *t.* 28. *last figure.*

B. alpina minima. *Hall. Opusc.* 234, with an ample criticism of synonyms.

B. minima. *Bauh. Hist. v.* 3. *p.* 2. 539. *f.*

B. foliis lanceolatis. *Linn. Fl. Lapp. n.* 152. *ed.* 1. 115. *ed.* 2. 121.

Small Bistort. *Pet. H. Brit. t.* 5. *f.* 2.

β. Bistorta minima alpina, foliis imis subrotundis et minutissimè serratis. *Raii Syn.* 147.

B. pumila, foliis variis, rotundis et longis. *Moris. v.* 2. 585. *n.* 4.

Welsh Bistort. *Pet. H. Brit. t.* 5. *f.* 3.

In pastures, or moist fissures of rocks, in alpine situations.

In several parts of Westmoreland, and the north of Yorkshire. *Ray, Hudson.* In dry stony pastures, by the sides of the Scottish mountains, not unfrequent. *Lightfoot, Hooker.* Near the top of Ben Lomond.

Perennial. *June, July.*

Like the last in habit, but much smaller, and essentially distinct. *Root* fleshy, astringent. *Herb* smooth. *Stem* from 3 to 6 inches high, leafy. *Leaves* stalked, for the most part linear-lanceolate, often somewhat elliptical, and in β the lower ones are short, round, or heart-shaped; all pale beneath, revolute, and curiously marked with prominent marginal veins, as if crenate. *Stipulas* tubular, very long, membranous, roughish, sheathing the stem opposite to each *footstalk*. *Cluster* cylindrical, interspersed with numerous membranous *bracteas*. *Fl.* stalked, pale red, constructed much like the last; but in the place of many of the

lower ones are sessile, ovate bulbs, which falling off become young plants. This is exhibited in Tournefort's *t.* 291. *f.* G—K. The plant therefore is not so truly viviparous as gemmiparous, nor do the real *flowers* above often produce any *seeds*.

8. P. *aviculare*. Common Knot-grass.

Flowers axillary. Leaves elliptic-lanceolate, rough-edged. Ribs of the stipulas distant. Stem procumbent, herbaceous.

P. aviculare. *Linn. Sp. Pl.* 519. *Willd. v.* 2. 449. *Fl. Br.* 429. *Engl. Bot. v.* 18. *t.* 1252. *Curt. Lond. fasc.* 1. *t.* 27. *Mart. Rust. t.* 91. *Hook. Scot.* 122. *Fl. Dan. t.* 803.

P. n. 1560. *Hall. Hist. v.* 2. 259.

P. mas vulgare. *Ger. Em.* 565. *f. Raii Syn.* 146. *Lob. Ic.* 419. *f.*

P. mas. *Matth. Valgr. v.* 2. 300. *f. Camer. Epit.* 688. *f. Dod. Pempt.* 113. *f. Fuchs. Hist.* 614. *f. Trag. Hist.* 391. *f.*

P. latifolium. *Bauh. Pin.* 281.

P. sive Centinodia. *Bauh. Hist. v.* 3. *p.* 2. 374. *f.* 375.

Common Knot-grass. *Pet. H. Brit. t.* 10. *f.* 1.

β. Polygonum brevi angustoque folio. *Bauh. Pin.* 281. *Raii Syn.* 146.

Short-leaved Knot-grass. *Pet. H. Brit. t.* 10. *f.* 3.

γ. Polygonum oblongo angustoque folio. *Bauh. Pin.* 281. *Raii Syn.* 146.

Narrow Knot-grass. *Pet. H. Brit. t.* 10. *f.* 4.

δ. Polygonum folio rotundo. *Dill. in Raii Syn.* 147.

Thick-set Knot-grass. *Pet. H. Brit. t.* 10. *f.* 2.

ε. Polygonum marinum. *Raii Syn.* 147 ; *excluding all the synonyms.*

In waste as well as cultivated ground, streets, paths, and barren sandy places, every where.

ε. On the Cornish coast, as mentioned by Ray. *F. Borone.*

Annual. *April—October.*

Root fibrous, long, very tough, and somewhat woody ; branched below ; simple at the crown. *Stems* several, spreading in every direction, generally prostrate, much branched, round, striated, leafy at the numerous knots or joints. *Leaves* alternate, stalked, hardly an inch long, elliptic or lanceolate, entire, obtuse, single-ribbed, smooth except at the margin ; tapering at the base ; very variable in width ; their substance rather coriaceous ; their colour greyish, or glaucous. *Stipulas* membranous, acute, often red, with a few remote brownish ribs. *Fl.* axillary, 2 or 3 together, on simple stalks, small, but often singularly beautiful under a magnifier, being variegated with white, crimson, and green. *Stam.* 8, rarely 10, short and broad. *Germ.* triangular. *Styles* 3, short, with thick, blunt *stigmas*. *Seed* acutely triangular, of a shining black, the food of many small birds.

The real *P. maritimum* of Linnæus, to which all the synonyms of our large variety ε, quoted by Ray, truly belong, is a perennial shrubby species, distinguished by the very numerous and crowded ribs of its *stipulas*. This is destined to appear in *Fl. Græc. t.* 363. Meanwhile it is well represented in *Bauh. Hist. v.* 3. *p.* 2. 377. *f.* 1, copied in *Pet. H. Brit. t.* 10. *f.* 5, which evinces the mischief of compiling from exotic writers, whose plants are often different from our own. *P. maritimum* is also figured in *Barrel. Ic. t.* 560. *f.* 1 ; and in Lobel's *Adversaria* 179.

*9. P. *Fagopyrum*. Buck-wheat, or Brank.

Leaves heart-arrow-shaped. Stem nearly upright, without prickles. Angles of the seeds even.

P. Fagopyrum. *Linn. Sp. Pl.* 522. *Willd. v.* 2. 455. *Fl. Br.* 430. *Engl. Bot. v.* 15. *t.* 1044. *Mart. Rust. t.* 46. *Hook. Scot.* 122.
P. n. 1563. *Hall. Hist. v.* 2. 260.
Fegopyrum. *Dod. Pempt.* 511. *f.* 512. *Raii Syn.* 144.
Fagotriticum. *Bauh. Hist. v.* 2. 993. *f.*
Tragopyron. *Ger. Em.* 89. *f.*
Frumentum saracenicum. *Matth. Valgr. v.* 1. 357. *f. Camer. Epit.* 187. *f.*
Erysimum. *Bauh. Pin.* 27.
E. cereale. *Bauh. Theatr.* 530. *f.*
Ocymum veterum. *Trag. Hist.* 648. *f.*

In cultivated fields, often a troublesome weed, though imported from the East, and very impatient of frost.
Annual. *July, August.*
Root tapering. *Herb* rather succulent. *Stem* a little zigzag, branched, leafy, smooth, except a downy line along one side. *Leaves* between heart- and arrow-shaped, acute, entire, deep green, smooth, stalked ; upper ones sessile. *Stipulas* short and beardless. *Footstalks* roughish at the base. *Clusters* many-flowered, panicled, spreading. *Cal.* variegated with red, green, and white, bearing yellow glands between the *stamens*, of which latter 5 are longer than the rest ; and the 2 round lobes of their *anthers* are separated by a short intermediate bar. *Styles* 3, quite distinct. *Seed* brown, polished, with 3 sharp, even, not lobed nor wavy, angles.
The *seeds* are excellent food for domestic poultry, and for pheasants. Their copious *albumen* affords a palatable and wholesome meal, which makes very good cakes, called crumpits.

10. P. *Convolvulus*. Climbing Buck-wheat. Black Bindweed.

Leaves heart-arrow-shaped. Stem twining, angular. Segments of the calyx bluntly keeled.

P. Convolvulus. *Linn. Sp. Pl.* 522. *Willd. v.* 2. 455. *Fl. Br.* 430. *Engl. Bot. v.* 14. *t.* 941. *Curt. Lond. fasc.* 4. *t.* 29. *Hook. Scot.* 122. *Fl. Dan. t.* 744.

P. n. 1561. *Hall. Hist. v.* 2. 260.

Fegopyrum scandens sylvestre. *Raii Syn.* 144.

Volubilis nigra. *Ger. Em.* 863. *f.*

Convolvulus minor, semine triangulo. *Bauh. Pin.* 295.

Helxine semine triangulo. *Bauh. Hist. v.* 2. 157. *f.* 158.

H. caule volubili. *Linn. Fl. Lapp. n.* 154. *ed.* 1. 116. *ed.* 2. 123.

In corn-fields, gardens, hedges, and osier-grounds.

Annual. *June—Sept.*

Root small, tapering. *Stem* twining from left to right, round every thing in its way, to the height of 5 or 6 feet, branched, leafy, angular, often roughish. *Leaves* alternate, stalked, bright green, generally with a red mid-rib, wavy, smooth, arrow-shaped, a little approaching to a heart-shape. *Clusters* lax, interrupted, leafy, stalked, terminating the short lateral branches. *Fl.* drooping, greenish-white, or reddish; their 3 outer segments with a blunt, flat, not much dilated, keel; 3 inner ones smallest. *Stam.* 8, occasionally but 6. *Styles* sometimes 2 only. *Seed* triangular, dark brown, shining, concave at the sides, rather smaller than the preceding, food for birds, and without doubt wholesome for mankind, if at any time worth collecting.

OCTANDRIA TETRAGYNIA.

221. PARIS. Herb Paris.

Linn. Gen. 198. *Juss.* 42. *Fl. Br.* 431. *Lam. t.* 319. *Gærtn. t.* 83.

Herba Paris. *Tourn. t.* 117.

Nat. Ord. *Sarmentaceæ.* Linn. 11. *Asparagi.* Juss. 12.

Cal. inferior, of 4 lanceolate, acute, spreading, permanent leaves, the length of the corolla. *Pet.* 4, spreading, awl-shaped, equal, permanent, similar to the calyx, but narrower, and alternate with it. *Filam.* 8, awl-shaped, rather short below the *anthers*, which are long, linear, of 2 cells, united by their backs to the middle part of the filaments, whose points rise above them. *Germ.* superior, roundish, with

4 furrows. *Styles* 4, spreading, shorter than the stam. *Stigmas* oblong, downy at the upper side. *Berry* nearly globose, with 4 blunt angles, somewhat depressed, of 4 cells. *Seeds* several, globose, attached, in 2 rows, to a central *receptacle*.

Herbaceous, perennial. *Stem* simple, bearing 4 or more simple, entire, pointed *leaves*, in a whorl at the top, with a central green *flower*.

1. P. *quadrifolia*. Common Herb Paris.

Leaves ovate, about four.

P. quadrifolia. *Linn. Sp. Pl.* 526. *Willd. v.* 2. 471. *Fl. Br.* 431. *Engl. Bot. v.* 1. *t.* 7. *Hook. Scot.* 122. *Fl. Dan. t.* 139. *Redout. Liliac. t.* 226. *Bull. Fr. t.* 119.

P. n. 1006. *Hall. Hist. v.* 1. 429.

Herba Paris. *Raii Syn.* 264. *Matth. Valgr. v.* 2. 439. *f.* *Camer. Epit.* 835. *f.* *Dod. Pempt.* 444. *f.* *Ger. Em.* 405. *f.* *Lob. Ic.* 267. *f.* *Garid. Prov.* 227. *t.* 49. *Tillands Ic.* 32. *f.*

Solanum quadrifolium bacciferum. *Bauh. Pin.* 167.

Aconitum pardalianches. *Fuchs. Hist.* 87. *f.* *Ic.* 48. *f.*

Uva lupina, seu Aster. *Trag. Hist.* 307. *f.* 308.

In groves and shady places, but not very common.

Perennial. *May, June.*

Root creeping. *Herb* smooth. *Stem* about a foot high, round, naked, except at the top. *Leaves* broadly ovate, or elliptical, acute, pliant, smooth, with 3 principal ribs, and many veins, stalked, spreading horizontally, usually 4, rarely 3, or 5, of a dull green. *Flower-stalk* upright, angular, simple, single-flowered, about half the length of the leaves. *Calyx-leaves* 3-ribbed. *Petals* narrow and acute. *Anth.* and *styles* yellowish. *Germen* violet. Every other part of the flower is green, and its whole appearance more singular than beautiful. *Berry* purplish-black, reported to be narcotic and dangerous. The *roots*, according to some apothecaries, quoted by Linnæus in *Fl. Lapp.*, are emetic, acting like Ipecacuanha, but requiring to be given in twice the quantity.

Another species has lately been discovered in Nepaul. See Rees's *Cyclopædia, v.* 26, *Paris polyphylla*.

222. ADOXA. Moschatell.

Linn. Gen. 198. *Juss.* 309. *Fl. Br.* 432. *Lam. t.* 320. *Gærtn. t.* 112.

Moschatellina. *Tourn. t.* 68.

Nat. Ord. *Succulentæ*. Linn. 13. *Saxifragæ*. Juss. 84. See *n.* 229, 230.

Cal. half inferior, in 2 or 3 deep, flat, spreading, permanent segments. *Cor.* of 1 petal, wheel-shaped, in 4 or 5 deep, ovate, acute, spreading segments, longer than the calyx. *Filam.* 8 or 10, awl-shaped, the length of the calyx. *Anth.* roundish. *Germ.* half superior. *Styles* 4 or 5, simple, short, moderately spreading, united at their base, which is permanent. *Stigmas* simple. *Berry* globose, its lower half invested with the permanent calyx, whose segments surround the middle part, of 1 cell, pulpy in the centre. *Seeds* 4, ranged round the central pulp, elliptical, compressed, each surrounded with a vertical, membranous border.

The terminal *flower* only is 4-cleft, with 8 *stamens*; the rest 5-cleft; hence, according to a rule assumed by Linnæus, this genus is placed in *Octandria*.

A smooth *herb*, of humble growth, with twice ternate *leaves*, and terminal, capitate, green *flowers*.

1. A. *Moschatellina*. Tuberous Moschatell.

A. Moschatellina. *Linn. Sp. Pl.* 527. *Willd. v.* 2. 472. *Fl. Br.* 432. *Engl. Bot. v.* 7. *t.* 453. *Curt. Lond. fasc.* 2. *t.* 26. *Hook. Scot.* 123. *Fl. Dan. t.* 94. *Ehrh. Pl. Off.* 434.

Moschatellina n. 1005. *Hall. Hist. v.* 1. 429.

M. foliis Fumariæ bulbosæ, de qua Cordus. *Bauh. Hist. v.* 3. *p.* 1. 206. *f.* *Raii Syn.* 267.

Moschatella. *Cord. Hist.* 172, 2. *f.* *Tillands Ic.* 53. *f.*

Radix cava minima viridi flore. *Ger. Em.* 1091. *f.*

Minimus Ranunculus septentrionalium, herbido muscoso flore. *Lob. Ic.* 674. *f.*

In groves, thickets, and under shady hedges.

Perennial. *April, May.*

Root of several white, fleshy, imbricated, concave scales, producing fibres and runners from their interstices. *Stem* solitary, erect, simple, angular, 3 or 4 inches high. *Leaves* broadly and unequally lobed and cut; the radical ones twice ternate, often solitary, on long stalks; stem-leaves ternate, opposite, smaller, on shorter stalks. *Fl.* pale green, with a musky scent when moist, forming a round head, 4 of them being lateral and 5-cleft; 1 terminal, erect, and 4-cleft. The *fruit*, by Gærtner's description, is truly a *berry*, becoming entirely pulpy as it ripens.

223. ELATINE. Waterwort.

Linn. Gen. 198. *Juss.* 300. *Fl. Br.* 433. *Lam. t.* 320. *Gærtn. t.* 112.

Nat. Ord. *Caryophylleæ*. Linn. 22. Juss. 82.

Cal. inferior, of 4, or 3, roundish, slightly concave, rather unequal, spreading, permanent leaves. *Pet.* as many as the calyx-leaves, and alternate with them, ovate, obtuse, sessile, spreading. *Filam.* twice as many as the petals, and about as long, awl-shaped. *Anth.* roundish. *Germ.* superior, large, globular, rather depressed. *Styles* 4, or 3, erect, very short. *Stigmas* simple. *Caps.* globose, depressed, large, of 4, or 3, valves, and as many cells; the partitions alternate with the valves, attached only to the *central column*. *Seeds* numerous, erect, oblong, furrowed, curved, attached to the *column*.

Smooth aquatic herbs, with branched *stems*; opposite or whorled, simple, entire *leaves*; and stalked, axillary, solitary, white or reddish, *flowers*.

1. E. *tripetala*. Small Waterwort.

Leaves opposite, rough with minute points. Flowers mostly three-cleft.

E. Hydropiper. *Engl. Bot. v.* 14. *t.* 955. *Comp.* 63. *Willd. Sp. Pl. v.* 2. 473. *β*.

E. triandra. *Hoffm. Germ.* 1800. 186?

Alsinastrum serpillifolium, flore roseo tripetalo. *Vaill. Par.* 5. *t.* 2. *f.* 1.

On the margins of ponds or ditches, in a sandy soil.

About the eastern shore of Bomere pool, near Condover, Shropshire. *Rev. E. Williams.* Near Binfield, Berks. *Mr. T. F. Forster.*

Annual. *July, August.*

Roots of many long white fibres, from the base, and lowermost joints, of the *stems*, which are decumbent, alternately branched, leafy, angular, smooth, pale and pellucid, 2 or 3 inches, at most, in length. *Leaves* opposite, on short stalks, elliptical, or obovate, more or less obtuse, entire, single-ribbed, or obscurely 3-ribbed, scarcely $\frac{1}{4}$ of an inch long; rough, more or less, on the upper side, with minute, prominent, cartilaginous points. *Stipulas* none. *Flower-stalks* axillary, solitary, alternate, simple, naked, single-flowered, erect, about the length of the leaves. *Flowers* small, generally 3-cleft, with 6 *stamens* and 3 *styles*, here and there 4-cleft, with 8 *stamens* and 4 *styles*. *Calyx-leaves* fleshy, green, somewhat unequal. *Pet.* roundish, slightly pointed, concave, inflexed, reddish, or pale flesh-coloured, smaller than the calyx. *Stam.* awl-shaped, incurved, not longer than the petals. *Anth.* yellow. *Caps.* of as many cells and valves as there are *styles*. *Seeds* oblong, obtuse, furrowed, and transversely striated, as represented by Gærtner in *E. Alsinastrum*; a plant long believed, on the authority of Dillenius, to be a native of England;

for who would have supposed so great a botanist could have confounded it with *Centunculus minimus,* as is proved by his herbarium at Oxford !

At Mr. Forster's persuasion, I have, like Vaillant, separated this from the true *E. Hydropiper* of Linnæus ; which is Vaillant's *t.* 2. *f.* 2, a larger plant, with smooth *leaves,* and 4-cleft, octandrous, white *flowers,* generally, if not always, growing entirely under water, and not yet observed in England. Ours may possibly be *E. triandra* of Schkuhr and Hoffmann ; but I have never seen fewer than 6 *stamens,* and therefore their name is not unexceptionable ; neither is their specific character, of the opposite *flowers,* ever observable in English specimens. Linnæus considered both Vaillant's plants as one species ; but, by his synonyms in *Fl. Suec.* the Swedish plant is Vaillant's *f.* 2. Both are preserved in his herbarium, but without any place of growth attached to either.

Class IX. ENNEANDRIA. *Stam.* 9.

Order I. HEXAGYNIA. Pistils 6.

224. BUTOMUS. *Cal.* 0. *Pet.* 6. *Caps.* 6, with many *seeds.*

ENNEANDRIA HEXAGYNIA.

224. BUTOMUS. Flowering-rush.

Linn. Gen. 201. *Juss.* 46. *Fl. Br.* 436. *Tourn. t.* 143. *Lam. t.* 324. *Gærtn. t.* 19.

Nat. Ord. *Tripetaloideæ.* Linn. 5. *Junci.* Juss. 13.

Cal. none. *Pet.* 6, ovate, concave, withering; the 3 outermost smallest, and most acute. *Filam.* awl-shaped, shorter than the corolla, 6 in the outer row, 3 in the inner. *Anth.* oblong, of 2 cells, each opening lengthwise, by 2 valves, the whole subsequently contracted into a heart-shaped figure. *Germens* 6, oblong, the point of each elongated into a vertical *style*, with an abrupt *stigma*. *Caps.* 6, oblong, taper-pointed, erect, each of 1 cell, and 1 valve, bursting at the inner margin. "*Seeds* numerous, lining the capsules, cylindrical, obtuse, furrowed, each with a narrow lateral wing; *embryo* minute, oval, undivided." *Gærtn.*

An aquatic herb, with radical, linear, triangular *leaves*, and a simple, radical, round *stalk*, bearing a large, bracteated *umbel*, of handsome red *flowers*.

1. B. *umbellatus*. Common Flowering-rush.

B. umbellatus. *Linn. Sp. Pl.* 532. *Willd. v.* 2. 491. *Fl. Br.* 436.

Engl. Bot. v. 10. *t.* 651. *Curt. Lond. fasc.* 1. *t.* 29. *Hook. Scot.* 123. *Fl. Dan. t.* 604. *Ehrh. Calam.* 77.

Butomus. *Cæsalp.* 553. *Raii Syn.* 273.

B. n. 1186. *Hall. Hist. v.* 2. 80.

Juncus floridus. *Matth. Valgr. v.* 2. 384. *f. Camer. Epit.* 781. *f. Blair's Bot. Ess.* 215.

J. floridus major. *Bauh. Pin.* 12. *Theatr.* 189. *f.*

J. cyperoides floridus paludosus. *Lob. Ic.* 86. *f.*

Gladiolus palustris Cordi. *Ger. Em.* 29, 3. *f.*

In ditches, and the margins of rivers, on a gravelly soil.

Perennial. *June, July.*

Root tuberous, horizontal. *Herb* smooth, cellular, half immersed in water. *Leaves* erect, narrow, acute, near a yard high. *Stalk* solitary, still taller, round and very smooth. *Umbel* 4 inches, or more, in diameter, interspersed with many lanceolate, brownish *bracteas*. *Fl.* very handsome, rose-coloured, erect, each about an inch broad, without scent. Blair, in the book above quoted, calls the 3 outer *petals* a *calyx*; but the whole 6 are permanent, and so firmly connected, that perhaps they had better all be termed a coloured *calyx*.

Class X. DECANDRIA. *Stam.* 10.

Order I. MONOGYNIA. Pistil 1.

* *Fl. polypetalous.*

225. MONOTROPA. *Pet.* 10, or 8; 5, or 4, outermost protuberant at the base. *Anthers* of 1 cell, and 2 valves.

228. PYROLA. *Pet.* 5. *Anth.* of 2 cells, with 2 pores.

** *Fl. monopetalous, equal.*

226. ANDROMEDA. *Cor.* ovate, or bell-shaped. *Caps.* of 5 cells.

227. ARBUTUS. *Cor.* ovate, transparent at the base. *Berry* of 5 cells.

Vaccinium 1, 2. *Menziesia* 1.

Order II. DIGYNIA. Pistils 2.

231. SCLERANTHUS. *Cor.* 0. *Cal.* of 1 leaf. *Seeds* 2.

229. CHRYSOSPLENIUM. *Cor.* 0. *Cal.* coloured. *Caps.* with 2 beaks. *Seeds* numerous.

230. SAXIFRAGA. *Pet.* 5. *Cal.* in 5 deep segments. *Caps.* with 2 beaks. *Seeds* numerous.

232. SAPONARIA. *Pet.* 5. *Cal.* tubular, without angles, of 1 leaf, naked at the base. *Caps.* oblong.

233. DIANTHUS. *Pet.* 5. *Cal.* tubular, of 1 leaf, with scales at the base. *Caps.* oblong.

Order III. TRIGYNIA. Pistils 3.

236. ARENARIA. *Caps.* of 1 cell. *Pet.* undivided, spreading.

235. STELLARIA. *Caps.* of 1 cell. *Pet.* deeply cloven, spreading.

237. CHERLERIA. *Caps.* of 1 cell. *Glands* 5 at the base of the *stamens.* *Pet.* 0.

234. SILENE. *Caps.* of 3 incomplete cells. *Pet.* with claws; limb cloven. *Cal.* of 1 leaf.

Polygonum 8.

Order IV. PENTAGYNIA. Pistils 5.

238. COTYLEDON. *Capsules* 5, each with a scale at the base. *Cor.* of 1 petal.

239. SEDUM. *Caps.* 5, each with a scale at the base. *Cor.* of 5 petals.

240. OXALIS. *Capsule* of 5 cells, angular. *Seeds* 2, tunicated. *Pet.* connected at the base.

242. LYCHNIS. *Caps.* of 5 cells, or of 1, with many *seeds.* *Cal.* tubular, membranous.

241. AGROSTEMMA. *Caps.* of 1 cell. *Cal.* tubular, coriaceous.

243. CERASTIUM. *Caps.* of 1 cell. *Cal.* of 5 leaves. *Pet.* cloven.

244. SPERGULA. *Caps.* of 1 cell. *Cal.* of 5 leaves. *Pet.* undivided.

Stellaria 6, 7. *Adoxa.*

DECANDRIA MONOGYNIA.

225. MONOTROPA. Bird's-nest.

Linn. Gen. 214. *Juss.* 430. *Fl. Br.* 440. *Lam. t.* 362.
Hypopitys. *Dill. Gen.* 134. *t.* 7.

Nat. Ord. undetermined by Linn., Juss., and DeCandolle. *Monotropeæ.* Nuttall Gen. v. 1. 272. But this still leaves its natural affinity in the dark. It cannot be identified with *Ericæ*, in character or habit: the ingenious Mr. Nuttall has, however, traced its affinity to *Pyrola*. The *anthers* differ from *Ericæ* as widely as those of the *Epacrideæ* of Brown, and somewhat in the same manner.

Cal. none. *Pet.* 10, or 8, inferior, obovate-oblong, erect, parallel; serrated in the upper part, deciduous; the 5, or 4, outermost largest, elongated and concave at the base, bearing honey internally; 5, or 4, alternate interior ones smallest, tapering and flat at the base. *Filam.* 10, or 8, erect, linear, flattish, shorter than the corolla; 5, or 4, alternate ones rather the smallest. *Anth.* kidney-shaped, erect, of 1 cell and 2 valves. *Germ.* superior, ovate, with 5, or 4, furrows. *Style* cylindrical, short, erect. *Stigma* orbicular, peltate. *Caps.* ovate, with 5, or 4, furrows, and as many cells and valves, with a partition from the centre of each valve; and a spongy central column of as many angles. *Seeds* very numerous, minute, oval, each enveloped in a membranous reticulated *tunic*, greatly elongated at both ends.

The terminal *flower*, which in some species is the only one, being decandrous, with 10 *petals*, determines the class, as in *Adoxa*, gen. 222.

Parasitical herbs, of a pale uniform hue, having a simple, scaly, rather than leafy, *stem*; allied in habit, at least, to *Orobanche*; to some of the *Orchis* tribe in peculiarity of scent, and in *seeds*.

1. M. *Hypopitys*. Yellow Bird's-nest.

Flowers in a drooping cluster; lateral ones with eight stamens; terminal one with ten.

M. Hypopitys. *Linn. Sp. Pl.* 555. *Willd. v.* 2. 573. *Fl. Br.* 440. *Engl. Bot. v.* 1. *t.* 69. *Hook. Lond. t.* 105. *Scot.* 125. *Relh.* 164. *Fl. Dan. t.* 232. *Ehrh. Phyt.* 44.

Hypopitys n. 1002. *Hall. Hist. v.* 1. 427.
H. lutea. *Raii Syn.* 317.
Orobanche quæ Hypopitys dici potest. *Bauh. Pin.* 88. *Prodr.* 31.
O. Hypopitys lutea. *Mentz. Pugill. t.* 3. *Moris. v.* 3. 503. *sect.* 12. *t.* 16. *f.* 13.
O. flore breviore duplici, Verbasculi odore. *Moris. v.* 3. 504. *n.* 20.
O. Verbasculi odore. "*Plot Oxf.* 146. *t.* 9. *f.* 6." *Pluk. Almag.* 273. *Phyt. t.* 209. *f.* 5.

About the roots of beeches and firs, in woods, but not common.
Frequent in the counties of Oxford, Bedford, Buckingham and Berks. *Huds.* In Stoken-church woods. *Ray.* In Sussex. *Mr. Manningham.* Near Tring, Hertfordshire. *Mr. Doody.* Near Uley, Gloucestershire. *Rev. Mr. Baker.* In a fir wood at Shottisham, near Stoke, Norfolk. *Mr. Crowe.* In Madingley plantations, Cambridgeshire. *Relhan.* About Box hill, Surrey. *Mr. Graves.* In some dry beech and fir woods in Scotland. *Lightfoot.*
Perennial. *June.*
Root fibrous, much branched, and somewhat creeping, growing among dead leaves, or in half-decayed vegetable mould; but I could never find it truly parasitical, any more than Mr. Graves; though the uniform pallid hue of the plant indicates it to be so. *Herb* succulent, smooth, straw-coloured, turning quite black when dry, and exhaling, during that process, a very sweet and peculiar scent, approaching that of *Vanilla*, the flowers of *Orchis nigra* (*Satyrium nigrum* Linn.), the roots of *Corallorrhiza*, or other fragrant *Orchideæ*. *Stem* mostly solitary, simple, 5 or 6 inches high, round, beset with scattered ovate *scales* rather than *leaves*. *Cluster* terminal, bent downwards while young, at length erect, of several *flowers*, accompanied by *bracteas* like the scales of the stem. *Petals* closed, a little spreading at the tips, 8 only in each flower, except the terminal one, which has 10. *Stamens* as many as the petals, and more lasting, often hairy. The smaller *petals*, which exist likewise in the American *M. lanuginosa*, having perhaps fallen from Professor Hooker's specimen, may account for his figure and description not agreeing with what I have seen, and what Linnæus and Dillenius accurately describe. The anthers in our plant have, as Dr. Hooker says, but 1 cell; those of the single-flowered species seem differently constructed.
Haller refers to Rivinus, *Tetrap. Irr.*, for his *Hypopitys*; but I find no traces of it. Willdenow merely copies him, or rather perhaps Reichard.

226. ANDROMEDA. Andromeda.

Linn. Gen. 219. *Juss.* 160. *Fl. Br.* 441. *Lam. t.* 365. *Gærtn. t.* 63 *and* 178.
Nat. Ord. *Bicornes.* Linn. 18. *Ericæ.* Juss. 51.

Cal. inferior, small, coloured, permanent, in 5 deep, acute segments. *Cor.* of 1 petal, ovate or bell-shaped; the limb in 5 small, reflexed segments. *Filam.* 10, awl-shaped, shorter than the corolla, and scarcely attached to its base. *Anth.* incumbent, of 2 oval cells, opening by 2 terminal pores, surmounted by a pair of horns. *Germ.* roundish, with 5 furrows. *Style* terminal, cylindrical, longer than the stamens, permanent. *Stigma* obtuse, notched. *Caps.* roundish, with 5 angles, 5 cells, bursting at the angles, and 5 valves with partitions from their centre. *Seeds* numerous, roundish, polished.

Shrubs, with simple, mostly evergreen, *leaves*, and solitary or aggregate, white or reddish, drooping *flowers*.

1. A. *polifolia.* Marsh Andromeda. Wild Rosemary.

Clusters terminal. Leaves alternate, lanceolate, revolute; glaucous beneath.

A. polifolia. *Linn. Sp. Pl.* 564. *Fl. Lapp. ed.* 2. 131. *t.* 1. *f.* 2. *Willd. v.* 2. 610. *Fl. Br.* 441. *Engl. Bot. v.* 10. *t.* 713. *Hook. Scot.* 125. *Fl. Dan. t.* 54. *Pall. Ross. v.* 1. *p.* 2. 53. *t.* 71.

A. n. 1017. *Hall. Hist. v.* 1. 434.

Polifolia. *Buxb. Comm. Petrop. v.* 2. (*ann.* 1727.) 345. *Cent.* 5. 28. *t.* 55. *f.* 1.

Ledum palustre nostras, arbuti flore. *Raii Syn.* 472.

Viti Idææ affinis, polifolia montana. *Bauh. Hist. v.* 1. *p.* 1. 525. *f.*

Erica palustris, flore purpurascente pendulo, petiolo longo rubro, rorismarini folio. *Rudb. Act. Suec. ann.* 1720. 97.

E. humilis, rorismarini foliis, unedonis flore, capsulâ cistoide. *Pluk. Almag.* 136. *Phyt. t.* 175. *f.* 1.

On mossy peat bogs, in the mountainous parts of England and Ireland, and the low-lands of Scotland.

Shrub. *June.*

A most elegant, smooth, evergreen *shrub*, scarcely a span high, with alternate, rigid, round, leafy branches. *Leaves* irregularly scattered, on short stalks, elliptic-lanceolate, acute, various in breadth, strongly revolute; of a dark blueish green above; very glaucous, with a prominent rib, beneath. *Stipulas* none. *Clusters* somewhat umbellate, with white or reddish, bracteated stalks. *Fl.* pendulous, nearly globular, of a delicate blush-colour. *Caps.* erect.

A very interesting account of this charming plant is given in Linnæus's *Lapland Tour, v.* 1. 188. See also Hooker, *Scot.* 126.

227. ARBUTUS. Strawberry-tree. Bear-berry.

Linn. Gen. 220. *Juss.* 160. *Fl. Br.* 441. *Tourn. t.* 368. *Lam. t.* 366. *Gærtn. t.* 59.

Uva ursi. *Tourn. t.* 370.

Nat. Ord. see *n.* 226.

Cal. inferior, of 1 leaf, small, in 5 deep obtuse segments, permanent. *Cor.* of 1 petal, ovate, rather flattened and transparent at the base; the limb in 5 small, recurved, bluntish segments. *Filam.* slightly attached to the base of the corolla, and about half its length, awl-shaped, swelling in the middle. *Anth.* incumbent, of 2 oval cells, opening by 2 terminal pores, and bearing a pair of short horns, or spurs. *Germ.* superior, roundish, seated on an orbicular ten-dotted *receptacle*. *Style* terminal, cylindrical, erect, the length of the corolla. *Stigma* obtuse. *Berry* globular, of 5 cells. *Seeds* small, angular, bony; in *Arbutus* of Tournefort numerous; in his *Uva ursi* solitary in each cell.

Trees, or trailing *shrubs*, with alternate, evergreen, simple, mostly serrated, *leaves*. *Pubescence*, if any, bristly. *Fl.* clustered, white or reddish, drooping. *Berries* various, black or red, smooth or tuberculated, more or less mealy, not very wholesome.

1. A. *Unedo*. Common Strawberry-tree.

Stem arboreous. Leaves smooth, bluntly serrated. Panicle terminal. Berry with many seeds.

A. Unedo. *Linn. Sp. Pl.* 566. *Suppl.* 238. *Willd. v.* 2. 616. *Fl. Br.* 442. *Engl. Bot. v.* 34. *t.* 2377.

Arbutus. *Raii Syn.* 464. *Ger. Em.* 1496. *f.* *Matth. Valgr. v.* 1. 245. *f.* *Camer. Epit.* 168. *f.* *Dod. Pempt.* 803. *f.* 804. *Bauh. Hist. v.* 1. *p.* 1. 83. *f.*

A. folio serrato. *Bauh. Pin.* 460. *Mill. Ic.* 32. *t.* 48. *f.* 2.

On limestone rocks in Ireland.

About the lake of Killarney plentifully. *Mr. Crowe.*

Tree. *September.*

A bushy *tree*, of very great size in Crete and the Levant; the young shoots often red, and rough with glandular hairs. *Bark* of the main *stem* reddish-brown, the external layers coming off in thin flakes. *Leaves* elliptic-lanceolate, unequally serrated, bright green, veiny, rigid, on hairy *footstalks*, without *stipulas*. *Clusters* panicled, bent downwards, smooth. *Bracteas* oblong,

solitary under each partial stalk, recurved. *Fl.* very elegant, of a greenish, semitransparent white, with a shade of red, destitute of scent. *Berry* crimson, the size of a cherry, very like a strawberry, being covered with hard tubercles, but the seeds are internal. This *fruit* is insipid, and scarcely eatable in England; but in the Levant it is said to be much larger, and more agreeable as well as wholesome. It is 12 months in arriving at perfection.

2. A. *alpina*. Black Bear-berry.

Stems procumbent. Leaves rugged, serrated. Clusters terminal.

A. alpina. *Linn. Sp. Pl.* 566. *Willd. v.* 2. 618. *Fl. Br.* 442. *Engl. Bot. v.* 29. *t.* 2030. *Lightf.* 215. *t.* 11. *f.* a, b. *Hook. Scot.* 126. *Fl. Dan. t.* 73.

A. n. 1019. *Hall. Hist. v.* 1. 436.

Vitis Idæa. *Clus. Hist. v.* 1. 61. *f.*

V. Idæa fructu nigro. *Bauh. Hist. v.* 1. *p.* 1. 519. *f.*

Vaccinia pannonica, sive Vitis Idæa. *Ger. Em.* 1416. *f.*

On stony mountainous heaths.

Not uncommon on the most dry and barren moors of Scotland.

Shrub. *May.*

Stems woody, trailing, spreading extensively, round, with a deciduous bark. *Leaves* deciduous, alternate, stalked, obovate, serrated, reticulated with copious veins, smooth, except some marginal hairs at the entire part near the base; withering and pallid before they fall. *Fl.* white, in short terminal clusters. *Bracteas* solitary at the base of each flower-stalk, concave, reddish, fringed. *Cor.* hairy about the mouth. *Anth.* with very short terminal horns. *Berry* smooth, black, of the size and flavour of black currants.

Ray and Dillenius did not well distinguish the synonyms of this plant from the following; nor are C. Bauhin's references all correct, under his *Vitis Idæa foliis oblongis albicantibus, Pinax* 470, where he confounds it with *Vaccinium uliginosum.*

3. A. *Uva ursi*. Red Bear-berry.

Stems procumbent. Leaves obovate, entire. Clusters terminal.

A. Uva ursi. *Linn. Sp. Pl.* 566. *Fl. Lapp. ed.* 2. 129. *t.* 6. *f.* 3. *Willd. v.* 2. 618. *Fl. Br.* 443. *Engl. Bot. v.* 10. *t.* 714. *Woodv. Med. Bot. t.* 70. *Lightf.* 216. *t.* 11. *f.* c, d. *Hook. Scot.* 126. *Fl. Dan. t.* 33.

A. n. 1018. *Hall. Hist. v.* 1. 434.

Vaccinia rubra, foliis myrtinis crispis. *Merr. Pin.* 123. *Raii Syn.* 457; the synonyms confused.

V. ursi, sive Uva ursi apud Clusium. *Ger. Em.* 1416. *f.*
Uva ursi. *Clus. Hist. v.* 1. 63. *f. Lob. Obs.* 547. *f. Ic.* 366. *f. Girard. Obs.* 11. *t.* 1.
Vitis Idæa, foliis carnosis et veluti punctatis. *Bauh. Pin.* 470.

On dry stony alpine heaths.
Four miles from Heptonstall near Widdop, on a great stone by the river Gorlpe, Lancashire. *Merrett.* Shown to Ray, on the same spot, by T. Willisel. *R. Syn.* Common throughout the Highlands, and Western Isles, of Scotland ; also in the isle of Mull, at the end next Y-Columb-kill, for the space of several miles, (where it was observed by Mr. Lhwyd) ; and at the top of East-Common-Wood, a mile from Hexham, Northumberland. *Lightfoot.* Sent from Durham, by the Rev. Mr. Harriman and Mr. Oliver.
Shrub. *June.*
Stems woody, round, branched, long and trailing, with a smooth bark. *Leaves* alternate, stalked, obovate, obtuse, entire, thick and rigid, veiny, evergreen ; convex and wrinkled above ; concave and paler beneath ; their edges very minutely downy. Scales of the *buds* lanceolate, acute, permanent. *Stipulas* none. *Clusters* terminal, short, drooping, with many acute, coloured *bracteas*. *Flower-stalks* angular. Segments of the *calyx* pale, often fringed. *Cor.* rose-coloured, smooth. *Berry* globose, depressed, scarlet, mealy within, very austere and astringent, left untouched by birds. *Seeds* seldom more than 4 or 5 perfected, though there are rudiments of 8 or 10, so that the character of Tournefort's genus *Uva Ursi*, as given by Linnæus in *Gen. Pl.*, does not hold good.

228. PYROLA. Winter-green.

Linn. Gen. 221. *Juss.* 161. *Fl. Br.* 443. *Tourn. t.* 132. *Lam. t.* 367. *Gærtn. t.* 63.

Nat. Ord. *Bicornes.* Linn. 18. *Ericæ.* Juss. 51. Akin to *Monotropeæ.* Nutt. Gen. 272. Hook. Scot. *p.* 2. 231.

Cal. inferior, of one leaf, in 5 deep, permanent segments. *Petals* 5, roundish, concave, spreading. *Filam.* awl-shaped, curved, variously directed, shorter than the corolla. *Anth.* large, pendulous, of 2 cells, each opening by a round pore at the summit. *Germ.* superior, roundish, 5-lobed. *Style* cylindrical, longer than the stamens, variously directed, permanent. *Stigma* tumid, somewhat annular, notched. *Caps.* orbicular, depressed, with 5 angles, 5 cells, 5 valves, and 5 partitions from the central column, opposite to the centres of the valves, and alternate with the angles where the cells burst; receptacles 5, from the central column, compressed, alternate with the

partitions. *Seeds* very numerous, covering the receptacles, minute, oval, each in a membranous tunic, elongated at both ends.

Roots creeping, perennial. *Stems* herbaceous, or somewhat woody, short, depressed, angular, leafy; sometimes branched. *Leaves* simple, undivided, stalked, smooth, veiny, evergreen. *Fl.* one, or most frequently several, on a solitary, upright, tall, angular *stalk*, white or reddish, very elegant, and often highly fragrant. One American species has no leaves. See Rees's *Cyclop. v.* 29. The whole genus is astringent and tonic.

1. P. *rotundifolia.* Round-leaved Winter-green.

Stamens ascending. Style twice as long, declining and recurved. Cluster many-flowered. Calyx as long as the stamens.

P. rotundifolia. *Linn. Sp. Pl.* 567. *Willd. v.* 2. 621. *Fl. Br.* 444. *Engl. Bot. v.* 3. *t.* 213. *Hook. Lond. t.* 26. *Scot.* 127. *Lam. f.* 1.

P. rotundifolia major. *Bauh. Pin.* 191. *Moris. v.* 3. 504. *sect.* 12. *t.* 10. *f.* 1.

P. n. 1010. *Hall. Hist. v.* 1. 431.

Pyrola. *Raii Syn.* 263. *Riv. Pentap. Irr. t.* 136. *f.* 2. *Ger. Em.* 408. *f.* *Matth. Valgr. v.* 2. 331. *f.* *Camer. Epit.* 723. *f.* *Bauh. Hist. v.* 3. *p.* 2. 535. *f.* *Dalech. Hist.* 841. *f.* 2.

P. vulgatior. *Clus. Hist. v.* 2. 116. *f.* *Moris. sect.* 12. *t.* 10. *f.* 1, *excluding the fruit.*

Limonium. *Fuchs. Hist.* 467. *f.*

L. sylvestre. *Trag. Hist.* 707. *f.*

In bushy places, and in dry heathy woods, but rare.

About Halifax, Yorkshire, in several places. *Ray.* On a common at Bradwell, near Gorlestone, Suffolk. *Mr. Lily Wigg.* In a wood at Middleton, Suffolk; Mr. Davy. *Hooker.* In dry woods and sometimes upon heaths, in the Highlands of Scotland. *Lightf.*, though rare in the Lowlands, according to Mr. D. Don. *Hook. Scot.* This species is found on the opposite coast of Holland, in situations exactly similar to that where it once grew at Bradwell, but where it is no longer to be seen.

Perennial. *July, August.*

The largest of its genus, though variable in size. *Leaves* 4 or 5, for the most part nearly orbicular, an inch broad, or more, very obscurely, as well as bluntly, notched, a little decurrent into the long, slightly bordered *footstalks*; the upper surface especially very smooth and shining, finely reticulated with veins. *Flower-stalk* a span high, triangular, a little twisted, bearing a few scattered scaly *bracteas*, and terminating in an oblong, erect, simple *cluster*, of numerous, rather drooping, pure white, fragrant

flowers, spreading in every direction, each with a lanceolate, concave, membranous, brown *bractea*, at the base of its partial *stalk*, and not quite so long. *Stam.* all turned upwards, and crowded together. *Anth.* oblong, yellow; the pores somewhat tubular, but not much elongated. *Germen* deeply 5-lobed. *Style* club-shaped, twice the length of the stamens, and bent downward, in a contrary direction to them, though recurved at the extremity. *Stigma* large, annular, with a central protuberance, having 5 notches. *Caps.* orbicular, 5-lobed, umbilicated and depressed, of the diameter of a large pea.

I have never seen the *flowers* otherwise than snow-white, without any yellowish tinge, the latter belonging rather to *P. media*, often mistaken for *rotundifolia*.

2. P. *media*. Intermediate Winter-green.

Stamens regularly inflexed. Style twice as long, deflexed. Cluster of many pendulous flowers. Calyx shorter than the stamens.

P. media. *Swartz in Stockh. Trans. for* 1804. 257. *t.* 7. *f.* 1. *Winch Guide v.* 2. 19. *Engl. Bot. v.* 28. *t.* 1945. *Comp.* 65. *Hook. Lond. t.* 30. *Scot.* 127.

P. rotundifolia. *Fl. Dan. t.* 110.

Pyrola. *Besl. Hort. Eyst. æstiv. ord.* 5. *t.* 11. *f.* 1.

In woods in the North, rare.

In Scot's wood Dean, 3 miles west of Newcastle; also in East-common wood, near Hexham; Northumberland; and some woods 4 miles north of Wolsingham, Durham. *Mr. Winch.* In Wyre forest, near Bewdley. *Dr. Pratinton.* Near Forres, in woods belonging to the Earl of Moray. *Hooker.* I suspect also that this may be the *Pyrola* of Stoken-church woods, and other parts of Oxfordshire, generally taken for the *minor*, and planted by Mr. Lightfoot in the wood at Bulstrode.

Perennial. *July, August.*

Nearly as large as the preceding, and the *leaves* are as commonly orbicular, but rather more disposed to be serrated. *Flowerstalk* triangular, more spirally twisted, with pendulous, less expanded, and smaller *flowers*, whose *corolla* is milk-white, with a delicate pink tint at the margin. The *calyx* is shorter. *Stam.* all regularly incurved round the *germen*, not directed to the upper side of the flower. *Anth.* greenish; broad and tawny about their pores. *Style* club-shaped, declining, but not recurved. *Stigma* large, annular; convex and notched in the centre, projecting a little beyond the *corolla*, and, when accompanying the ripe *capsule*, almost straight, though still deflexed.

There can be no doubt that this species has formerly been mistaken in Britain, sometimes for the foregoing, sometimes for the following, nor are characters wanting to excuse such errors.

3. P. *minor*. Lesser Winter-green.

Stamens regularly inflexed. Style the same length, straight. Stigma five-lobed, pointless, without a ring. Cluster of many drooping flowers.

P. minor. *Linn. Sp. Pl.* 567. *Willd. v.* 2. 621. *Fl. Br.* 444. *Engl. Bot. v.* 3. *t.* 158, bad. *Hook. Scot.* 128. *Fl. Dan. t.* 55. *Riv. Pentap. Irr. t.* 136. *f.* 1. *Dill. in Raii Syn.* 363.

P. rosea. *Engl. Bot. v.* 36. *t.* 2543.

P. n. 1009. *Hall. Hist. v.* 1. 431.

P. vulgatior, the fruit only. *Moris. sect.* 12. *t.* 10. *f.* 1.

In mossy woods and thickets, in mountainous situations.

At Studley, Yorkshire, and Corra Linn. *Mr. Winch.* Common in many parts of Durham. *Mr. J. Backhouse.* Woods near Brodie. house. *Mr. Brodie.* At the falls of Clyde, and many other places in Scotland. *Professor Hooker.*

Perennial. *July.*

Smaller than either of the foregoing, with more elliptical, crenate *leaves*. *Stalk* with 4 angles, one of which is smaller than the rest, seldom spiral, or but slightly so, furnished with a few scaly *bracteas*, chiefly at the lower part. *Cluster* long and slender, sometimes lax, or interrupted. *Flowers* drooping in every direction. Segments of the *calyx* short, broad, and acute. *Petals* pale pink, orbicular, converging. *Stam.* all equally inflexed. *Anth.* nearly terminal, dilated and yellowish upward, with 2 large pores. *Style* cylindrical, short, straight. *Stigma* large, with 5 radiating lobes, but no central points, nor any annular projection underneath them, by which this is clearly distinguished from the two last. The valves of the *capsule* are connected by a web in all the three species. The errors and uncertainties to which *t.* 158 of *Engl. Bot.* gave rise (see *t.* 2543 of the same work), and which were augmented by a specimen of *P. minor* having been sent from Sweden for *media*, I have, 8 years since, corrected in Rees's *Cyclopædia*; and the remarks of my worthy friend Professor Hooker, in *Fl. Scot.*, leave no doubt remaining. His excellent figure of *P. media* in *Fl. Lond.* and Mr. Sowerby's in *Engl. Bot. t.* 1945, are sufficient to prevent any future misunderstanding of that species, whose annular *stigma* accords with *P. rotundifolia*, and not at all with *minor*. Dr. Swartz's *P. chlorantha*, figured in the *Stockh. Trans. for* 1810. *t.* 5, and in *Riv. Pentap. Irr. t.* 138. *f.* 1, may possibly be detected hereafter in Britain. Dr. Hooker's plate of *P. rotundifolia* answers to it in the shortness of the *calyx*, and colour of the *flower*.

4. P. *secunda*. Serrated Winter-green.

Leaves ovate, acute, serrated. Flowers drooping, unilateral. Pores of the anthers dilated. Style straight. Stigma five-lobed.

P. secunda. *Linn. Sp. Pl.* 567. *Willd. v.* 2. 621. *Fl. Br.* 445. *Engl. Bot. v.* 8. *t.* 517. *Dicks. H. Sicc. fasc.* 5. 8. *Hook. Scot.* 127. *Fl. Dan. t.* 402.

P. n. 1008. *Hall. Hist. v.* 1. 430.

P. folio mucronato serrato. *Bauh. Pin.* 191. *Raii Syn.* 363.

P. folio mucronato. *Riv. Pentap. Irr. t.* 138. *f.* 2.

P. folio serrato. *Bauh. Hist. v.* 3. *p.* 2. 536. *f.*

P. secunda tenerior. *Clus. Pann.* 505. *t.* 506. *Hist. v.* 2. 117. *f. Ger. Em.* 408. *f.*

Ambrosia montana. *Dalech. Hist.* 1148. *f.*

In mossy alpine woods.

In Yorkshire. *Ray.* In many fir or birch woods in Scotland. *Lightf. Hooker.* Near Moffat. *Rev. Dr. Walker.* On the hill of Dunnairn, in Darnway forest, near Brodie house. *Mr. Brodie.*

Perennial. *July.*

Stems branched and tufted, rather straggling. *Leaves* ovate, veiny, finely and sharply serrated. *Stalk* a finger's length, bearing several lanceolate *bracteas,* and a rather dense *cluster* of white, fragrant, drooping *flowers,* all turned to one side. Segments of the *calyx* triangular, minutely jagged, or downy, at the edges. *Pet.* much longer, converging. *Stam.* all equally incurved; finally straight, when the pores of the *anthers,* at first directed downward, become vertical. *Style* straight, longer than the *corolla. Stigma* large, somewhat annular, externally convex, with 5 large, radiating, originally channelled, lobes. Valves of the *capsule* connected by a fine web.

5. P. *uniflora.* Single-flowered Winter-green.

Stalk single-flowered. Pores of the anthers contracted, tubular. Stigma with five pointed rays.

P. uniflora. *Linn. Sp. Pl.* 568. *Willd. v.* 2. 622. *Fl. Br.* 446. *Engl. Bot. v.* 3. *t.* 146. *Hook. Scot.* 127. *Fl. Dan. t.* 8. *Ehrh. Phytoph.* 54.

P. n. 1011. *Hall. Hist. v.* 1. 431.

P. flore singulari. *Riv. Pentap. Irr. t.* 139. *f.* 1.

P. quarta minima. *Clus. Pann.* 508. *t.* 509. *Hist. v.* 2. 118. *f. Ger. Em.* 408. *f.*

P. minima alpina. *Bauh. Hist. v.* 3. *p.* 2. 536. *f.*

In alpine woods, by the sides of trickling rills.

Gathered about the year 1783, by Mr. James Hoggan, in the western isles of Harris and Bernera. *Mr. Gotobed.* In a fir wood near Brodie house, by Forres. *Mr. Brodie, and Mr. James Hoy.*

Perennial. *July.*

Root creeping, slender. *Stems* an inch or two long, reclining, simple, densely leafy. *Leaves* ovate, or roundish, acute, sharply serrated, stalked, veiny, quite smooth like every other part.

Stalk 3 inches long, erect, usually bearing one concave *bractea*, and a solitary, large, very elegant, white, or slightly reddish, *flower*, near an inch broad, with the sweet and powerful scent of the Lily of the Valley. *Cal.* minutely fringed. *Pet.* much larger, ovate, veiny. *Stam.* much shorter than the petals, and lying upon them. *Anth.* turgid, inflexed, each with a pair of tubular appendages at the base, terminating in the open pores. *Style* stout, erect. *Stigma* large, slightly annular at the base, terminating in 5 large, spreading, pointed rays. The valves of the *capsule* seem to have no connecting web.

One of the most curious and elegant of British flowers.

DECANDRIA DIGYNIA.

229. CHRYSOSPLENIUM. Golden-saxifrage.

Linn. Gen. 222. *Juss.* 309. *Fl. Br.* 447. *Tourn. t.* 60. *Lam. t.* 374. *Gærtn. t.* 44.

Nat. Ord. *Succulentæ.* Linn. *Saxifragæ.* Juss. 84. *N.* 222, and 230 the same.

Cal. superior, of 1 leaf, in 4 or 5 deep, unequal, spreading, permanent, internally coloured, segments; the opposite ones narrowest. *Pet.* none. *Nect.* a glandular ring, just within the insertion of the stamens. *Filam.* 8 or 10, awl-shaped, erect, very short, from the mouth of the calyx. *Anth.* roundish, of 2 lobes. *Germ.* inferior, roundish; prominent at the summit. *Styles* awl-shaped, spreading, the length of the stamens. *Stigmas* obtuse. *Caps.* of 1 cell, and 2 valves, beaked with the permanent styles, and surrounded with the calyx turned green. *Seeds* roundish, numerous, small.

The terminal flower, being generally 5-cleft and decandrous, regulates the class, as in *Adoxa*, *n.* 222.

Procumbent, slightly hairy, and succulent, *herbs;* with stalked, undivided, notched, kidney-shaped *leaves;* and small, yellow, corymbose, terminal *flowers.*

1. Ch. *alternifolium.* Alternate-leaved Golden-saxifrage.

Leaves alternate.

Ch. alternifolium. *Linn. Sp. Pl.* 569. *Willd. v.* 2. 637. *Fl. Br.* 447. *Engl. Bot. v.* 1. *t.* 54. *Hook. Scot.* 128. *Fl. Dan. t.* 366.
Ch. n. 1548. *Hall. Hist. v.* 2. 254.
Saxifraga aurea, foliis pediculis oblongis insidentibus. *Raii Syn.* 158.
S. aurea Dodonæi. *Bauh. Hist. v.* 3. *p.* 2. 707. *f.* *Dalech. Hist.* 1113. *f.*
Sedum palustre luteum majus, foliis pediculis longis insidentibus. *Moris. v.* 3. 477. *sect.* 12. *t.* 8. *f.* 8.
Long Golden Saxifrage. *Pet. H. Brit. t.* 6. *f.* 10.

On the borders of shady rivulets, rather rare.
On Poringland heath, Norfolk; and in many parts of the north of England, and Lowlands of Scotland.
Perennial. *May.*
Roots fibrous, creeping. *Stems* angular, decumbent, branched at the summit only. *Leaves* kidney-shaped, with broad abrupt notches, rough on both sides with scattered, tubular, jointed hairs; the under side pale and polished; *radical* ones on long stalks; those on the stem few and distant; the rest crowded about the top, under the corymbose, almost sessile, deep-yellow *flowers*, of which the central, or earliest one, is mostly 5-cleft, and rather the largest, though this is denied by some botanists on the continent to be ever the case. See Willdenow.

2. Ch. *oppositifolium.* Opposite-leaved Golden-saxifrage.

Leaves opposite.

Ch. oppositifolium. *Linn. Sp. Pl.* 569. *Willd. v.* 2. 638. *Fl. Br.* 448. *Engl. Bot. v.* 7. *t.* 490. *Curt. Lond. fasc.* 2. *t.* 27. *Hook. Scot.* 128. *Fl. Dan. t.* 365. *Ehrh. Herb.* 135.
Ch. n. 1549. *Hall. Hist. v.* 2. 254.
Saxifraga aurea. *Dod. Pempt.* 316. *f.* *Raii Syn.* 158. *Ger. Em.* 841. *f.* *Lob. Ic.* 612. *f.*
S. romanorum. *Dalech. Hist.* 1114. *f.*
Sedum palustre luteum, foliis subrotundis sessilibus. *Moris. v.* 3. 477. *sect.* 12. *t.* 8. *f.* 7.
Golden Saxifrage. *Pet. H. Brit. t.* 6. *f.* 9.

In watery shady places.
Perennial. *May.*
Paler than the preceding; the *herb* about the same size, but the *leaves* are all opposite, smaller, and less abruptly notched. *Fl.* also smaller, and lemon-coloured, all frequently 4-cleft, and octandrous; but by no means invariably, or generally, destitute of a 5-cleft, terminal, or central, one. See Willdenow.

230. SAXIFRAGA. Saxifrage.

Linn. Gen. 223. *Juss.* 309. *Fl. Br.* 448. *Sm. in Rees's Cycl. v.* 31. *Tourn. t.* 129. *Lam. t.* 372. *Gærtn. t.* 36.
Geum. *Tourn. t.* 129.

Nat. Ord. see *n.* 229.

Cal. inferior, half inferior, or almost perfectly superior, of 1 leaf, in 5 deep, permanent segments. *Pet.* 5, attached to the calyx, spreading, contracted at the base, not always uniform, deciduous. *Filam.* 10, attached to the calyx, awl-shaped, spreading, successively incumbent, permanent. *Anth.* of 2 round lobes. *Germ.* superior, or more or less inferior, roundish or ovate, terminating in 2 short spreading *styles*. *Stigmas* obtuse, mostly downy. *Caps.* nearly ovate, with 2 beaks formed of the permanent styles, and opening between them, of 2, sometimes incomplete, cells, with a central *receptacle*. *Seeds* minute, numerous, roundish, compressed, covering the receptacle.

Herbs, generally perennial, various in habit, often in some degree hairy and glutinous, with stalked, simple, undivided or lobed, *leaves*. *Flowers* either panicled, rarely solitary, on a long naked *stalk*, or corymbose at the top of a round leafy *stem*; erect, white, yellow, or purple, frequently spotted, inodorous. Natives of cool or mountainous countries. I have profited by the arrangement of my friend Mr. D. Don, *Tr. of L. Soc. v.* 13, with some variations.

* *Calyx reflexed, inferior. Leaves undivided. Flower-stalks panicled, erect, much taller than the stems.*

1. S. *Geum.* Kidney-leaved Saxifrage.

Leaves roundish-kidney-shaped, notched, somewhat hairy. Footstalks linear, channelled, much longer than the leaves. Flower-stalk panicled. Capsule superior.

S. Geum. *Linn. Sp. Pl.* 574. *Willd. v.* 2. 648. *Engl. Bot. v.* 22. *t.* 1561. *Comp.* 65. *Don Tr. of L. Soc. v.* 13. 349. *Lapeyr. Pyren. v.* 1. 46. *t.* 24.
S. n. 71. *Gmel. Sib. v.* 4. 161. *t.* 65. *f.* 1.
Sanicula montana rotundifolia minor. *Bauh. Pin.* 243.
Sedum montanum rotundifolium minus album, non guttatum. *Moris. v.* 3. 478. *n.* 12; *no figure.*
Geum folio circinato acutè crenato, pistillo floris rubro. *Magnol. Hort. t.* 13; *not the description.*

Round Pride. *Pet. H. Brit. t.* 61. *f.* 2.

β. *Don Tr. of L. Soc. v.* 13. 350. Leaves smooth on both sides.

γ. *Ibid.* Thrice the usual size. Leaves smooth on both sides. Panicle more spreading. Petals larger, elegantly spotted.

Sedum montanum serratum rotundifolium album, guttato flore. *Moris. v.* 3. 477. *sect.* 12. *t.* 9. *f.* 12 ?

On the mountains of Ireland.

On a mountain near Dingle, county of Kerry. *Mr. J. T. Mackay.* β and γ from the same neighbourhood.

Perennial. *June.*

The *herbage* consists of several leafy, evergreen tufts. *Leaves* numerous, spreading, rigid, almost orbicular, or rather kidney-shaped, being usually broader than long; heart-shaped at the base; besprinkled on both sides with rigid bristly hairs, which however are nearly wanting in both the varieties; the under surface reticulated or speckled with purple; the margin regularly and rather sharply crenate, scarcely cartilaginous, the terminal or central tooth shorter, and often broader, than the rest. *Footstalks* twice, sometimes four times, the length of the leaves, narrow, linear, channelled, densely hairy. *Flower-stalks* solitary, hairy, about a span high, panicled in the upper half, with numerous, alternate, corymbose, hairy, viscid branches. *Bracteas* small, linear-spatulate, spreading, hairy, solitary under each branch of the panicle, permanent. *Fl.* small. Segments of the *calyx* ovate, obtuse, reddish, hairy, obscurely 3-ribbed, strongly reflexed as soon as the flower is expanded, permanent. *Petals* narrow-obovate, obtuse, cream-coloured, purplish at the base, with a dull yellow stain towards the middle of the disk. *Caps.* ovate, reddish, tipped with the short, brownish, more or less divaricated, *styles.*

I have long cultivated this species, sent by Mr. Mackay, and find it very little variable. The *petals* have only a solitary spot of dull yellow on their disk, and the *leaves* are constantly purple at the back, most hairy on the upper side. Magnol's elegant plate, indicated above, answers perfectly to our plant; but his description, *p.* 87, agrees better with *S. hirsuta,* especially as he there describes the *leaves* nearly round, and the *petals* with bloody spots. Mr. Don's and my variety γ has 3 or 4 crimson spots on each *petal,* besides a bright yellow stain, and the *leaves* are nearly, not quite, smooth. If they were more hairy, I should have no doubt of Morison's *f.* 12 belonging to this variety; nor indeed do I know what else it can be. Lapeyrouse's *t.* 24 is perhaps most like this γ.

2. S. *hirsuta.* Hairy Oval-leaved Saxifrage.

Leaves oval, with sharp cartilaginous notches; slightly hairy; heart-shaped at the base. Footstalks linear, much longer

than the leaves. Panicle somewhat forked. Capsule superior.

S. hirsuta. *Linn. Sp. Pl.* 574. *Willd. v.* 2. 647. *Engl. Bot. v.* 33. *t.* 2322. *Comp.* 65. *Don Tr. of L. Soc. v.* 13. 351. *Lapeyr. Pyren. v.* 1. 45. *t.* 23.

Sedum bicorne serratum subrotundum spissius virens, floribus punctatis. *Moris. v.* 3. 478. *sect.* 12. *t.* 9. *f.* 16.

Geum folio circinato, acutè crenato, pistillo floris rubro. *Magnol. Hort.* 87 ; *descr., not the figure.*

β. Don as above. Leaves roundish-heart-shaped, smooth on both sides.

On mountains in Ireland.

In the County of Kerry. *Mr. J. T. Mackay.*

Perennial. *June.*

Larger than the preceding. *Leaves* roundish-oval, always longer than they are broad, with copious, rather acute, cartilaginous serratures ; the terminal tooth broad and short ; both surfaces almost perfectly smooth in all my specimens ; the under one purplish. *Footstalks* linear throughout, slightly channelled, very hairy. *Panicle* hairy and viscid, much branched, indistinctly forked, the earliest *flowers* from the forks, as represented in *Engl. Bot. Calyx, styles* and *capsule* much like *S. Geum,* but the *petals* are elliptic-oblong ; mostly purple at the base ; yellow just above ; the middle of the disk dotted with crimson ; which is distinctly to be seen in the old Linnæan specimens, as well as in the Irish ones. The *leaves* in β are rather rounder, with sharper and deeper notches.

3. S. *umbrosa.* London-pride Saxifrage. None-so-pretty.

Leaves obovate, smooth, with sharp cartilaginous notches ; tapering at the base into dilated flat footstalks. Panicle rather racemose. Capsule superior.

S. umbrosa. *Linn. Sp. Pl.* 574. *Willd. v.* 2. 647. *Fl. Br.* 450. *Engl. Bot. v.* 10. *t.* 663. *Don Tr. of L. Soc. v.* 13. 352. *Hook. Scot.* 129.

Sedum bicorne serratum, pallidiore folio rotundiore, floribus punctatis. *Moris. v.* 3. 478. *sect.* 12. *t.* 9. *f.* 17.

Geum folio subrotundo minori, pistillo floris rubro. *Tourn. Inst.* 251. *Magnol Hort.* 88. *t.* 14.

G. folio subrotundo majori, pistillo floris rubro. *Tourn. ibid. Mill. Ic.* 94. *t.* 141. *f.* 2. *Dill. in Raii Syn.* 355.

Umbilicus Veneris, sive Cotyledon altera. *Ger. Em.* 528. *f.* bad, as to the leafy stalk, taken from Dodonæus, *Pempt.* 131.

β, *punctata. Don as above.* 352. Leaves roundish, with sharp

tooth-like serratures; the full-grown ones erect. Footstalks elongated. Not *S. punctata* of Linnæus or Willdenow.

γ, *serratifolia. Don ibid.* "Leaves oblong-ovate, with deep serratures; the full-grown ones erect. Footstalks elongated."

In the clefts of rocks, and on mountains, in Yorkshire, and several parts of Ireland.

Plentifully on a mountain called the Mangerton, county of Kerry, 2 miles from Killarney; Dr. Molyneux; on the mountains of Sligo; Mr. Lhwyd. *Raii Syn.* On Croagh Patrick, county of Mayo, 2666 feet above the level of the sea. *Mr. Lambert.* Near the lake of Killarney, in the greatest abundance; also in Cork and Kerry. *Rev. T. Butt.* In Thorp Arch woods, near Wetherby, Yorkshire. *Sir T. Frankland, and Dr. White.* Betwixt Arncliffe and Horton in Craven. *Rev. W. Bingley.*

Perennial. *June.*

About the size of the last, or larger. *Leaves* in large, rose-like, perennial tufts, smooth, roundish-obovate, with strong, sharp, cartilaginous serratures; the base of each tapering gradually down into a broad, flat, nearly smooth, *footstalk*, at first shorter than the leaves, but subsequently becoming sometimes twice their length. *Common flower-stalk* round, red and hairy, from 4 to 6 or 8 inches high. *Panicle* with several hairy, viscid, racemose branches, each bearing 3 or 4 alternate *flowers*, not forked like the preceding. *Cal.* small, reddish, obtuse, closely reflexed. *Pet.* obovate-oblong, obtuse, pale flesh-coloured, stained with yellow near the base; more or less covered with crimson dots on the disk. *Caps.* ovate, reddish, entirely superior, tipped with the short, nearly upright, *styles.*

Mr. Don's variety β, which I have also from Mr. Mackay, is very unlike the original Linnæan specimen of *S. punctata* from Siberia. The latter belongs to a different section of the genus, having the *germen* partly inferior; the *calyx* broad and hemispherical at the base, with broad, triangular, spreading or erect, not reflexed, segments; and nearly sessile *stigmas*. Morison's *f.* 17 is justly excluded by Mr. Don from this variety, nor does it belong to the true *punctata;* but rather to *S. umbrosa*, which is so common in gardens, and bears, like many other mountain plants, even the smoke of London, as its English name expresses. The *leaves* in one of Mr. Mackay's specimens, which may perhaps be Mr. Don's γ, have small, sharp, intermediate teeth, between the coarse serratures.

4. S. *stellaris.* Starry Saxifrage.

Leaves elliptic-wedge-shaped, coarsely serrated; tapering and entire at the base. Panicle corymbose, of few flowers. Capsule superior.

S. stellaris. *Linn. Sp. Pl.* 572. *Willd. v.* 2. 644. *Fl. Br.* 448.

Engl. Bot. v. 3. *t.* 167. *Don Tr. of L. Soc. v.* 13. 356. *Hook. Lond. t.* 69. *Scot.* 128. *Fl. Dan. t.* 23. *Jacq. Coll. v.* 1. 202. *t.* 13. *Scop. Carn. v.* 1. 292. *t.* 13.

S. n. 973. *Hall. Hist. v.* 1. 418.

Geum palustre minus, foliis oblongis crenatis. *Raii Syn.* 354.

Sedum montanum hirsutum, mucronato et dentato folio, flore albo guttato. *Moris. v.* 3. 478. *sect.* 12. *t.* 9. *f.* 13.

Sanicula myosotis alpina, floribus albicantibus, ferè umbellatis. *Pluk. Almag.* 331. *Phyt. t.* 58. *f.* 2. *t.* 222. *f.* 4.

Saniculæ alpinæ aliquatenùs affinis. *Bauh. Hist. v.* 3. *p.* 2. 708. *f.*

Hairy Pride. *Pet. H. Brit. t.* 61. *f.* 5.

On wet shady rocks, and by the sides of rivulets, on most of the mountains of Wales, Scotland, and the north of England.

Perennial. *June, July.*

Root fibrous, branched at the crown, bearing several short leafy *stems,* or rosaceous tufts, of rather fleshy deciduous *leaves,* besprinkled with hairs; sharply serrated or toothed towards the extremity; wedge-shaped and entire in their lower half; often purple beneath. *Flower-stalks* one or more, axillary or terminal, 3—5 inches high, round, naked, hairy and glutinous. *Panicle* cymose, of a few alternate *flowers,* with 1 or 2 oblong *bracteas* under each division. *Cal.* closely reflexed. *Pet.* ovate with a short claw, 3-ribbed, white, with a pair of transverse yellowish spots towards the base. *Germen* green, purple, or white. *Styles* very short. *Caps.* brownish, membranous, 2-celled, ribbed, smooth. *Seeds* roundish, rough with longitudinal rows of small tubercles.

** *Calyx spreading, partly superior. Leaves undivided. Flower-stalks radical, panicled or tufted, erect. Stem none.*

5. S. *nivalis.* Clustered Alpine Saxifrage.

Leaves roundish-obovate, serrated; tapering and entire at the base. Cluster dense, capitate, of few flowers. Calyx spreading. Capsule half inferior.

S. nivalis. *Linn. Sp. Pl.* 573. *Fl. Lapp. ed.* 2. 144. *t.* 2. *f.* 5. *Willd. v.* 2. 645. *Fl. Br.* 449. *Engl. Bot. v.* 7. *t.* 440. *Don Tr. of L. Soc. v.* 13. 387. *Lightf.* 221. *t.* 12. *Hook. Scot.* 129. *Dicks. H. Sicc. fasc.* 1. 7. *Fl. Dan. t.* 28.

S. foliis oblongo-rotundis dentatis, floribus compactis. *Raii Syn.* 354. *t.* 16. *f.* 1.

Sedum serratum rotundifolium. *Merr. Pin.* 111.

Sempervivum minus incisum. *Mart. Spitzb.* 43. *chap.* 3. *t.* F. *f. a. Ital. ed.* 100. *chap.* 3.

On the loftiest mountains of Wales and Scotland, in the moist fissures of rocks.

Upon Snowdon. *Dr. Merrett.* On the summits of several hills about Snowdon. *Mr. Llwyd, Mr. Griffith.* On Ben Lawers,

and other Highland mountains, but not common. *Hooker.* Near the top of Ben Lomond, on the west side, in the clefts of the rock. Perennial. *July.*

This has much affinity in habit to the last species, but is altogether destitute of a *stem.* The *leaves* are perfectly radical, ovate or obovate, variously, but not deeply, serrated, most hairy or downy about the edges; tapering at the base, which is entire, into a broad, flat, somewhat winged, *footstalk*, variable in length and width. *Flower-stalk* generally solitary, radical, stout, from 3 to 6 inches high; downy and viscid at the upper part, terminating in a very variable dense *cluster*, either single or divided, of a few alternate *flowers*, on short hairy stalks, with lanceolate, fringed *bracteas.* *Cal.* with a broad hemispherical base, embracing the lower half of the *germen*, and terminating in 5 broad, spreading, somewhat triangular, segments. *Pet.* ovate, inserted into the rim of the calyx between its segments, white, with two pale green transverse spots, and tipped with the same colour. *Stam.* from the rim of the calyx. *Caps.* large, ovate, with 2 recurved beaks; its lower half firmly united to the undivided base of the calyx. *Styles* very short. *Stigmas* capitate, smooth.

S. nivalis is the only British species of Mr. Don's 4th section, named *Micranthes;* a most natural assemblage; but he has judiciously refrained from making any generic division of *Saxifraga.* The present section indeed, though so well distinguished from the last by the different position and situation of the *calyx*, is very nearly related to it, and I have therefore altered Mr. Don's arrangement, so far as to place these sections next each other. The close affinity of their respective species, while they differ in subordinate characters, even of their fructification, affords the best evidence that the whole genus is natural and indivisible.

**** Stem leafy. Calyx partly or entirely inferior. Leaves undivided. Stigmas downy.*

6. S. *oppositifolia.* Purple Saxifrage.

Branches single-flowered, clothed with opposite, imbricated, fringed leaves. Petals ovate.

S. oppositifolia. *Linn. Sp. Pl.* 575. *Fl. Lapp. ed.* 2. 148. *t.* 2. *f.* 1. *Willd. v.* 2. 648. *Fl. Br.* 450. *Engl. Bot. v.* 1. *t.* 9. *Don Tr. of L. Soc. v.* 13. 400. *Dicks. H. Sicc. fasc.* 2. 6. *Curt. Lond. fasc.* 6. *t.* 27. *Hook. Scot.* 129. *Fl. Dan. t.* 34. *Allion. Pedem. v.* 2. 70. *t.* 21. *f.* 3.

S. n. 980. *Hall. Hist. v.* 1. 420.

S. alpina ericoides, flore cæruleo. *Raii Syn.* 353. *Tourn. Inst.* 253. *Scheuchz. It.* 2. *v.* 1. 140. *t.* 20. *f.* 2.

Sedum alpinum ericoides purpurascens, *also* cæruleum. *Bauh. Pin.* 284. *Prodr.* 132. *Moris. v.* 3 (not *v.* 1), 480. *n.* 36, 37. *sect.* 12. *t.* 10. *f.* 36. *Bauh. Hist. v.* 3. *p.* 2. 694. *f.*

Sedulis alpinis cognata. *Gesn. Fasc.* 1. 26. *t.* 9. *f.* 32.
Herniaria petræa. *Ibid. f.* 33.
Herb resembling Wall-pepper. *Mart. Spitzb.* 46. *chap.* 6. *t.* F. *f.* c. *Ital. ed.* 106. *chap.* 6.

On alpine rocks and precipices.
On the west side of the summit of Ingleborough hill, Yorkshire. *Dr. Richardson.* On Snowdon plentifully. *Mr. Llwyd.* On Ben Lomond and other Scottish mountains, frequent.
Perennial. *April.*
Stems numerous, prostrate, or pendulous, with many opposite, reddish, densely leafy, *branches,* forming broad dense tufts. *Leaves* small, imbricated in 4 rows, dark green, ovate, obtuse, slightly stalked, smooth, except a strong marginal fringe; some of the uppermost abrupt at the point, and marked with 1 or 2 perforations; those on the young trailing shoots more distant, and opposite only. *Flowers* terminal, solitary, nearly sessile, large, handsome. *Cal.* half inferior, with broad, deep, obtuse, fleshy, spreading, fringed segments. *Pet.* obovate, 5-ribbed, crimson with more or less of a blue tint. *Stam.* erect, awl-shaped, for the most part shorter than the corolla. *Styles* short and thick, with capitate downy *stigmas. Caps.* surrounded in its lower half by the entire base of the calyx, with which it is closely incorporated, the upper portion separating into 2 spreading valves, tipped with the straight *styles.*
The present species, with one, or perhaps two, exotic ones, distinguished by their opposite *leaves,* differ greatly in habit from the rest of the genus, and indeed from others of this section, so that it is difficult to arrange them according to any natural affinity. The same may be said of the next.

7. S. *Hirculus.* Yellow Marsh Saxifrage.

Stem erect, clothed with alternate, lanceolate, naked leaves. Capsule superior. Calyx reflexed, obtuse, fringed.

S. Hirculus. *Linn. Sp. Pl.* 576. *Willd. v.* 2. 649. *Fl. Br.* 451. *Engl. Bot. v.* 15. *t.* 1009. *Don Tr. of L. Soc. v.* 13. 372. *Curt. Lond. fasc.* 6. *t.* 26. *Fl. Dan. t.* 200.
S. n. 18. *Rosen. Obs.* 25.
S. n. 972. *Hall. Hist. v.* 1. 417. *t.* 11.
S. n. 77. *Gmel. Sib. v.* 4. 165. *t.* 65. *f.* 3.
S. angustifolia autumnalis, flore luteo guttato. *Breyn. Cent.* 1. *t.* 48.
Geum angustifolium autumnale, flore luteo guttato. *Tourn. Inst.* 252. *Dill. in Raii Syn.* 355.
Sedum palustre luteum bicorne, Nardi celticæ foliis. *Moris. v.* 3. 477. *sect.* 12. *t.* 8. *f.* 5; *also* S. angustifolium autumnale, flore luteo guttato. *Ibid. f.* 6.
Hirculus Frisicus. *Clus. Cur. Post.* 5. *f.* 6.

Chamæcistus Frisicus. *Ger. Em.* 1284. *f.*

In turfy bogs, very rare.

In a morass about the centre of Knutsford moor, Cheshire, where Dr. Kingstone first pointed it out to Dr. Richardson, early in the 18th century, and from whence Mr. Okell of Chester sent the wild specimen delineated in *Engl. Bot.* in August 1801. On Cotherstone fell, near the junction of the Blackbeck with the river Balder, Yorkshire, found by Mr. John Binks, some of whose specimens were given me by Mr. James Backhouse.

Perennial. *August.*

Root tufted with numerous black fibres, sending forth from the crown many short, simple, decumbent, leafy shoots, often clothed with loose, rusty hairs. *Stems* solitary, simple, erect, from 4 to 8 inches high, leafy, round, reddish, generally smooth, sometimes shaggy with rusty hairs. *Leaves* scattered, lanceolate, obtuse, entire, bright green, smooth, except a few occasional soft marginal hairs; tapering at the base into a smooth *footstalk*, various in length. *Flowers* terminal, corymbose, usually 2 or 3, sometimes solitary; their *stalks* hairy and glutinous, with a linear *bractea* to each. *Cal.* spreading at the first opening of the *flower*, but soon becoming reflexed, being altogether inferior, as in the first section; segments oblong, concave, obtuse, 5-ribbed, minutely fringed. *Pet.* twice as long as the calyx, spreading, obovate, deep yellow copiously dotted with red, having many simple unequal ribs, confluent above the base, which ends in a short claw, and is marked with a nectariferous furrow, bordered by two prominent pointed valves. *Stam.* shorter than the petals. *Caps.* oblong, tipped with the short angular *styles*, and broad, rounded, convex, downy *stigmas*. *Seeds* numerous, ovate, ribbed, of a shining brown.

A beautiful species, agreeing in its *calyx* and *capsule* with the first section, but hardly allied, by habit or peculiar characters, to any of the genus besides, except perhaps the following.

8. S. *aizoides*. Yellow Mountain Saxifrage.

Stem decumbent at the base. Leaves alternate, linear, with fringe-like teeth. Capsule half superior. Floral receptacle depressed. Calyx spreading.

S. aizoides. *Linn. Sp. Pl.* 576. *Willd. v.* 2. 650. *Fl. Br.* 452. *Engl. Bot. v.* 1. *t.* 39. *Don Tr. of L. Soc. v.* 13. 375. *Hook. Scot.* 129. *Wahlenb. Lapp.* 115.

S. autumnalis. *Willd. v.* 2. 650. *Huds.* 180. *Lightf.* 222. *Fl. Dan. t.* 72. *Scop. Carn. v.* 1. 293. *t.* 14.

S. n. 971. *Hall. Hist. v.* 1. 417.

S. alpina, angusto folio, flore luteo guttato. *Raii Syn.* 353.

Sedum alpinum, flore pallido. *Bauh. Pin.* 284. *Moris. v.* 3. 477. *sect.* 12. *t.* 6. *f.* 3.

Sedum alpinum, floribus luteis maculosis. *Bauh. Pin.* 284.
S. alpinum primum. *Clus. Pan.* 484. *t.* 485. *Ger. Em.* 515. *f.* 516.
S. minus sextum. *Clus. Hist. v.* 2. 59. *f.* 60.
S. parvum montanum luteum. *Bauh. Hist. v.* 3. *p.* 2. 693. *f.*

On the borders of mountain rills, in a black boggy soil.
On Ingleborough hill, Yorkshire, and on most of the Westmoreland and Scottish mountains.
Perennial. *June—September.*
Stems tufted, decumbent at the base, with many short, leafy, trailing shoots; the flowering part ascending, 3 or 4 inches high, leafy, smooth or hairy, unbranched; panicled at the summit. *Leaves* most crowded towards the root; the upper ones most scattered; all sessile, linear-oblong, obtuse, variously fringed with sharp, capillary teeth, which are scarcely ever entirely wanting. *Panicle* leafy, generally simple, of 3 or 4 *flowers*; sometimes branched and many-flowered; the *stalks* glutinous and densely hairy. *Cal.* of 5 broad leaves, encompassing the middle of the *germen*, and at all times widely spreading. *Pet.* a little longer than the calyx, obovate, or tongue-shaped, triple-ribbed, bright yellow, partly orange-coloured, besprinkled with scarlet dots. *Floral receptacle* broad, depressed, surrounding the bases of the awl-shaped, spreading *styles*. *Stigmas* obtuse, concave, downy. *Caps.* rather more than half superior when ripe, crowned with the slightly elongated *styles*.
Dwarf alpine specimens, whose *leaves* are less evidently fringed, have been taken for *S. autumnalis*; and are undoubtedly what many authors have described under that name, though a very little investigation is sufficient to prove them the *aizoides*. What Linnæus intended by his *autumnalis* is quite another question. It appears that, at one time, he gave this name to the *Hirculus*, figured in Breynius, *t.* 48, which plate he has marked *autumnalis*. At other times he had in view the fringed state of *aizoides*, considering the more naked-leaved specimens as the real *aizoides*, though his authentic ones thus named are very certainly fringed. His *autumnalis* therefore cannot be quoted as a synonym of either of these species, nor is the name at all suitable to them. The whole history of this confusion was given above 30 years ago in the 1st vol. of *English Botany*, and Dr. Wahlenberg's remark confirms what is there advanced.

**** *Calyx spreading. Leaves partly lobed. Stigmas mostly downy. Flowering stems erect, more or less leafy.*

9. S. *granulata*. White Meadow Saxifrage.

Leaves kidney-shaped, lobed. Stem panicled, leafy. Root granulated. Germen half-inferior.

S. granulata. *Linn. Sp. Pl.* 576. *Willd. v.* 2. 651. *Fl. Br.* 453. *Engl. Bot. v.* 7. *t.* 500. *Don Tr. of L. Soc. v.* 13. 362. *Curt. Lond. fasc.* 1. *t.* 30. *Freeman Ic. t.* 1. *Woodv. suppl. t.* 232. *Hook. Scot.* 129. *Fl. Dan. t.* 514.
S. n. 976. *Hall. Hist. v.* 1. 419.
S. rotundifolia alba. *Raii Syn.* 354.
S. alba. *Dod. Pempt.* 316. *Ger. Em.* 841. *f. Trag. Hist.* 525. *f.*
S. tertia. *Matth. Valgr. v.* 2. 327. *f.*
S. quarta. *Camer. Epit.* 719. *f.*
S. major, seu alba. *Fuchs. Hist.* 747. *f.*
Saxifragia. *Brunf. Herb. v.* 1. 185. *f.*
Sedum bicorne album rotundifolium erectum, radice granulosa. *Moris. v.* 3. 479. *sect.* 12. *t.* 9. *f.* 23.
White Pride. *Pet. H. Brit. t.* 61. *f.* 6.

In meadows and pastures, on a gravelly or sandy soil.
Perennial. *May.*
Root granulated, whitish. *Stem* a foot high, hollow, viscid, loosely hairy; simple, and most leafy, below; panicled at the top. *Leaves* stalked, rather fleshy, about an inch wide, kidney-shaped, with broad lobes and notches, often richly tinted with brown or red, like the *panicle* and *calyx*; the upper ones small and wedge-shaped. *Fl.* several, in a corymbose, hairy, glutinous *panicle*, nearly erect, large, white, accompanied by lanceolate *bracteas*. *Cal.* surrounding the *germen*, obtuse, moderately spreading. *Petals* spatulate, unspotted, triple-ribbed; the lateral ribs branched. *Germen* half-inferior. *Stigmas* large, convex, conspicuously downy, in which character, as well as in habit, this species answers generally to the numerous following ones, justly considered by Mr. D. Don as the genuine type of their genus.
An elegant double-flowered variety is often cultivated.
Haller's n. 976 proves, by Swiss specimens, to include *S. bulbifera*. Yet the *granulata* was found in that country by Mr. Davall, though very rarely.

10. S. *cernua*. Drooping Bulbous Saxifrage.

Leaves somewhat palmate, stalked. Stem with aggregate, axillary bulbs. Germen altogether superior. Petals obovate.

S. cernua. *Linn Sp. Pl.* 577. *Fl. Lapp. ed.* 2. 140. *t.* 2. *f.* 4. *Willd. v.* 2. 652. *Fl. Br.* 453. *Engl. Bot. v.* 10. *t.* 664. *Don Tr. of L. Soc. v.* 13. 364. *Hook. Scot.* 130. *Gunn. Norveg. p.* 2. 48. *t.* 8. *Fl. Dan. t.* 22, *also t.* 390.

About alpine rills, on the loftiest mountains of Scotland.
On the summit of Ben Lawers. *Mr. Dickson.* On Craigalleach. *Professor Hooker and Mr. Borrer.*
Perennial. *July.*

Herb nearly smooth, smaller and more delicate than the last. *Root* scaly, like that of a Lily in miniature. *Stem* from 4 to 8 inches high, slender, leafy, seldom bearing more than one flower, though often divided towards the upper part into several weak, leafy and bulbiferous branches. *Leaves* kidney-shaped, broadly lobed, almost palmate, stalked, alternate; some of the upper ones sessile, ovate, and nearly entire; most of those on the stem attended by purplish, aggregate, bulbs, or buds. *Flower* often drooping, white, on a terminal downy stalk. *Cal.* entirely inferior, with oblong, bluntish, downy, viscid segments. *Pet.* obovate, triple-ribbed, abrupt, or slightly notched at the end. *Stigmas* capitate, downy.

11. S. *rivularis*. Alpine Brook Saxifrage.

Leaves palmate, stalked; the uppermost spatulate. Stem with few flowers. Root fibrous. Germen half inferior.

S. rivularis. *Linn. Sp. Pl.* 577. *Fl. Lapp. ed.* 2. 142. *t.* 2. *f.* 7. *Willd. v.* 2. 652. *Fl. Br.* 454. *Engl. Bot. v.* 32. *t.* 2275. *Don Tr. of L. Soc. v.* 13. 367. *Hook. Scot.* 130. *Fl. Dan. t.* 118.

About alpine rivulets, and in wet fissures of rocks, on the mountains of Scotland.

On Ben Nevis. *Dr. Townson.* Near the lake, in the ascent of Ben Nevis; also on Ben Lawers. *Mr. D. Turner and Professor Hooker.* At Loch Rannoch; Mr. Sommerville. *Hooker.*

Annual. *June, July.*

Root fibrous, somewhat creeping; according to Mr. Don, annual. *Herb* an inch or two in height, bright green, a little succulent, smooth, except a few loose glutinous hairs on the upper part of the *stem*, which is leafy, seldom branched. *Leaves* with 3 or 5 lobes; the upper ones often ovate, or roundish-obovate, undivided; all on longish stalks. *Fl.* few, small, white, or reddish, on stalks of various lengths. *Cal.* half inferior, with ovate, somewhat spreading, segments. *Pet.* obovate, but little longer than the calyx. *Anthers* curiously reticulated, or dotted. *Styles* short. *Stigmas* capitate, and I believe smooth.

12. S. *tridactylites*. Rue-leaved Saxifrage.

Leaves wedge-shaped, with three or five segments; the uppermost undivided. Stem panicled, leafy. Stalks single-flowered, alternate. Germen inferior.

S. tridactylites. *Linn. Sp. Pl.* 578. *Willd. v.* 2. 654. *Fl. Br.* 454. *Engl. Bot. v.* 7. *t.* 501. *Don Tr. of L. Soc. v.* 13. 441. *Curt. Lond. fasc.* 2. *t.* 28. *Ehrh. Pl. Off.* 444.

S. n. 986. *Hall. Hist. v.* 1. 422.

S. verna annua humilior. *Tourn. Inst.* 252. *Raii Syn.* 354.

Sedum tridactylites tectorum. *Bauh. Pin.* 285. *Moris. v.* 3. 479. *sect.* 12. *t.* 9. *f.* 31.
Paronychia altera. *Dod. Pempt.* 112. *f.*
P. rutaceo folio. *Ger. Em.* 624. *f.*
Nasturtiolum petræum. *Gesn. Fasc.* 1. 26. *t.* 1. *f.* 34.
Rue Pride. *Pet. H. Brit. t.* 61. *f.* 8.

On walls, roofs, and dry barren ground, common.
Annual. *April, May.*
Root small, tapering. *Herb* downy and glutinous, tinged with more or less of a rich brown or red hue, and very variable in luxuriance. *Stem* erect, 3 or 4 inches high, alternately branched, leafy. *Leaves* fleshy, oblong-wedge-shaped; palmate in their upper half, with 3 blunt lobes, or pedate with 5, their base elongated and tapering; the floral ones lanceolate, undivided. *Fl.* small, white, on alternate, simple, upright stalks. *Cal.* perfectly superior, erect, short and obtuse, coloured, clothed with viscid hairs. *Pet.* obovate, small, white. *Stigmas* downy. *Caps.* ovate, membranous, of 2 cells, crowned by the permanent calyx, and clothed with prominent viscid hairs. *Seeds* small, angular.

13. S. *muscoides*. Mossy Alpine Saxifrage.

Leaves linear, obtuse, smooth, triple-ribbed, undivided, or with two small lateral lobes. Flowers few, corymbose. Petals nearly linear. Calyx almost naked.

S. muscoides. *Wulf. in Jacq. Misc. v.* 2. 123; *not* 125. *Willd. Sp. Pl. v.* 2. 656. *Don Tr. of L. Soc. v.* 13. 437.
S. cæspitosa. *Huds.* 181; *excl. the syn. of Linn. and Fl. Dan.* "*Lapeyr. Pyren.* 59. *t.* 35."
S. moschata. *With.* 406.
S. n. 988. *Hall. Hist. v.* 1. 422.
S. pyrenaica, foliis partìm integris, partìm trifidis. *Hall. Opusc.* 292. *t.* 1. *f.* 1. *Segu. Veron. v.* 1. 451. *t.* 9. *f.* 4.

On rocky mountains, very rare.
On mountains above Ambleside, Westmoreland. *Hudson*; confirmed by specimens sent from thence. *Mr. D. Don.* Cultivated in Kew garden, in 1781, as the true plant of Hudson.
Perennial. *May.*
Herb composed of many dense, crowded, leafy tufts. *Leaves* crowded, linear, obtuse, deep green; strongly triple-ribbed above the base; smooth on both sides; slightly fringed occasionally; some of them furnished with 2 lateral lobes, smaller, and more acute, than the middle one. Flowering *branches* terminal, solitary, erect, somewhat downy and viscid, bearing 2 or 3 distant undivided leaves, and terminating in 2, 3, or 4, corymbose, downy, bracteated, single-flowered *stalks*. *Germen* hemispherical, downy and viscid. *Cal.* superior, obtuse, nearly

or quite smooth. *Pet.* almost linear, pale yellow, obtuse, slightly cloven, triple-ribbed, rather longer than the calyx.

This species has never till now been rightly understood. I received it for the true *cæspitosa,* which latter was not known to Mr. Hudson. Mr. D. Don's remarks have led me to reconsider the subject, and to correct what is before the publick in the *Fl. Brit.* and Rees's *Cyclopædia,* respecting this plant and some of its allies.

†14. S. *pygmæa.* Dwarf Alpine Saxifrage.

Leaves linear, abrupt, smooth, undivided. Flowers corymbose. Petals obovate, scarcely longer than the very obtuse glandular calyx.

S. pygmæa. "*Haworth Misc. Nat.* 168." *Don Tr. of L. Soc. v.* 13. 439.

S. muscoides. *Hook. Scot.* 130. "*Lapeyr. Pyren.* 60. *t.* 36."

S. moschata. *Engl. Bot. v.* 33. *t.* 2314. *Comp.* 66. "*Lapeyr. Pyren.* 62, *β. t.* 38." "*Sternb. Saxifr. γ. t.* 11. *β. f.* 2."

In the Highlands of Scotland. *Mr. James Donn.*

Herb more densely tufted than the last. *Leaves* crowded, lanceolate, fleshy, deep green, smooth, shining, obtuse and abrupt. *Stems* erect, slender, slightly leafy, 2 or 3 inches high, corymbose, bearing 3 or 4 small *flowers,* on downy viscid stalks. *Cal.* covered in like manner with short, viscid, glandular hairs; its segments broadly ovate, obtuse, 3-ribbed. *Pet.* obovate, or nearly oval, a little longer than the calyx, greenish yellow, with 3 reddish ribs, united for a small distance above the base.

The description in *Engl. Bot.* was made with some reference to *S. tenera* of Suter, *Don Tr. of L. Soc. v.* 13. 410, for which I had mistaken this plant, and to which the synonyms I originally quoted belong. Almost every botanist, till very lately, has confounded these species. Whether the *leaves* of *S. pygmæa* are ever divided, or whether *S. grœnlandica* may sometimes have been confounded with it, I am by no means certain. I cannot but give the plant a place here, on the positive authority of my late friend Mr. James Donn, Curator of the Cambridge garden, though others deny its having ever been found in Scotland.

15. S. *cæspitosa.* Tufted Alpine Saxifrage.

Radical leaves crowded, three- or five-cleft, obtuse, veiny, fringed; lowermost undivided. Flowers from one to five, or more. Germen half inferior, hairy. Calyx smoother, obtuse. Petals rounded, triple-ribbed.

α. S. cæspitosa. *Linn. Sp. Pl.* 578. *Willd. v.* 2. 656. *Fl. Br.* 455. *Comp.* 66. *Engl. Bot. v.* 12. *t.* 794. *Don Tr. of L. Soc. v.* 13. 428.

S. grœnlandica. *Linn. Sp. Pl.* 578. *Gunn. Norveg. v.* 2. 80. *t.* 7. *f.* 1.

S. tridactylites grœnlandica, cauliculis valdè foliosis. *Dill. Elth.* 337. *t.* 253. *f.* 329.

β. S. decipiens. *Ehrh. Herb.* 5. *Beitr. v.* 5. 47 *and* 175. "*Sternb. Saxifr.* 55. *t.* 23."

S. cæspitosa. *Fl. Dan. t.* 71. *Gunn. Norveg. v.* 2. 135. *t.* 7. *f.* 3, 4.

S. petræa. *With.* 890.

S. palmata. *Fl. Br.* 456. *Comp.* 66. *Engl. Bot. v.* 7. *t.* 455.

On the loftiest mountains of Wales and Ireland.

α. On the rocks of Twll dû, in Cwm Idwell, North Wales. *Mr. Griffith.* On the lofty summit of Brandon mountain, county of Kerry. *Mr. J. T. Mackay.*

β. On the rocks of Cwm Idwell, but in more accessible places. *Mr. Griffith.* On the Galty mountains, Tipperary. *Mr. J. T. Mackay.*

Perennial. *May, June.*

Herb densely tufted, very variable in luxuriance, number of *flowers*, and degree of hairiness. *Radical leaves* numerous, more or less crowded, fringed with soft glutinous hairs, such as are generally likewise dispersed over both surfaces; their lower half almost linear, strongly ribbed; upper deeply divided into 3 or 5 oblong, obtuse, pointless segments, made too acute in *Engl. Bot. t.* 455. *Leaves* of the flowering stems few, scattered, rather more acute, either undivided or three-cleft, diminishing into *bracteas*. A few of the very lowest *leaves*, on the radical tufts, are also undivided. *Stems* solitary, erect, round, rather hairy and viscid, slightly leafy; in α only 2 or 3 inches high, and bearing 1 or 2, very rarely 3, *flowers*; in β often a span in height, corymbose, with 5 or 6. A root brought by Mr. Mackay from Brandon mountain, and rendered luxuriant by culture, bore 9 *flowers*. This is mentioned in Rees's *Cyclopædia* under *S. hirta*, but it certainly belongs to *cæspitosa*. The *calyx* of this species, in every state, is half inferior; its segments broad, obtuse, pointless, slightly fringed, glandular, but scarcely hairy, on the surface. *Germen* much more hairy, hemispherical. *Pet.* orbicular, or obovate, rounded, obtuse, entire, white, with a central green rib, sending off 2 curved lateral ones about the middle, none of them quite reaching to the summit. *Stigmas* downy.

When the larger variety of this species was published in *Engl. Bot.* I was unacquainted with Ehrhart's *S. decipiens*, whose name I therefore could not adopt. I have not quoted Professor Hooker, having seen no Scottish specimen of indubitable *cæspitosa*, and he has, in my opinion, confounded many things under that name. *S. grœnlandica* is, in the *Cyclopædia*, only suspected to be a variety of *cæspitosa*. I now believe them to be one and the same. Whether Mr. Don's *condensata*, *Tr. of L. Soc. v.* 13. 448, be a smooth variety of this, or, as the author says, allied to *hypnoides*, I have no means of judging, but in so very great a doubt, I must leave it undetermined.

16. S. *hirta*. Hairy Alpine Saxifrage.

Radical leaves rather crowded, five- or three-cleft, pointed, veiny, fringed. Flowers few, corymbose. Germen half inferior. Calyx acute. Petals obovate, triple-ribbed.

S. hirta. *Donn Cant. ed.* 5. 107. *Engl. Bot. v.* 32. *t.* 2291. *Comp.* 66. *Don Tr. of L. Soc. v.* 13. 421.
S. palmata. *Bingl. N. Wales, v.* 2. 395 ; *from the author.*

On alpine rocks in Ireland, Scotland and Wales.
On the Galty mountains, county of Tipperary. *Mr. J. T. Mackay.* In the west part of Scotland. *Mr. G. Don.* Near Twll dû, in Cwm Idwell ; also on the walls of Dolwyddelan castle, betwixt Capel Cerig and Llanrwst, North Wales. *Rev. W. Bingley.*
Perennial. *June, July.*
This has the habit of the larger variety of *S. cæspitosa*, nor is it always more hairy ; on the contrary, my specimens are rather smoother than those of the foregoing. The *hirta* seems to be furnished with longer lateral leafy shoots, and the segments of its *leaves* are acute, sometimes bristle-pointed, as are likewise those of the *calyx*. The *petals* are obovate, not at all orbicular, and their lateral ribs are longer, usually separating from the middle one but a little above its base. These two species nevertheless cannot be thought otherwise than very closely related, and I believe no botanist is, as yet, sufficiently acquainted with the specific differences of *Saxifragæ*, to say whether they are distinct or not.

17. S. *affinis*. Involute Alpine Saxifrage.

Radical leaves five-cleft; those of the trailing shoots mostly three-cleft; lobes linear, pointed. Segments of the calyx awl-shaped, channelled, pointed, recurved. Petals oblong, inflexed at the edges.

S. affinis. *Don Tr. of L. Soc. v.* 13. 418 ; *according to the author.*
S. lævis. *Donn Cant. ed.* 5. 107. *Mackay.*

On mountains in Ireland.
On the top of Brandon mountain, county of Kerry. *Mr. J. T. Mackay.*
Perennial. *May, June.*
Herb bright green, densely tufted before flowering, afterwards throwing out many procumbent, lax, reddish, distantly leafy shoots, several inches long ; the whole besprinkled with soft, slender, glutinous hairs. *Leaves* much elongated and tapering at the base, fringed, and otherwise somewhat hairy, divided about one third of their length into 3 lobes, the lateral lobes, of the radical leaves especially, cloven ; all of them linear, or slightly lanceolate, acute, partly bristle-pointed. *Stems* 3 or 4

inches high, erect, corymbose, bearing a few undivided lanceolate leaves; and 3 or 4 *flowers*, on glandular, or hairy, glutinous, upright *stalks*. *Germen* in like manner hairy and viscid. *Cal.* half inferior; its segments spreading, recurved, narrow, folded or channelled, acute, minutely bristle-pointed, slightly glandular. *Pet.* white, oblong, twice the length of the calyx, triple-ribbed, inflexed in a peculiar manner at both edges. *Stigmas* obtuse, cloven, recurved, very hairy and glandular. Upper half of the *capsule*, above the calyx, ribbed, angular, membranous, very smooth.

Very distinct from every other British species, though most resembling the *hirta*, and somewhat akin, as Mr. Don observes, to the exotic *ajugifolia*.

18. S. *platypetala*. Broad-petalled Saxifrage.

Radical leaves five-cleft; those of the trailing shoots three-cleft; lobes bristle-pointed. Segments of the calyx ovate, pointed, erect. Petals nearly orbicular, flat, with many lateral veins.

S. platypetala. *Sm. Tr. of L. Soc. v.* 10. 341. *Engl. Bot. v.* 32. *t.* 2276. *Comp.* 66. *Don Tr. of L. Soc. v.* 13. 422.

On the mountains of Scotland and Wales.

Upon Snowdon. *Mr. D. Turner.* On the Clova mountains, Angusshire. *Mr. G. Don.*

Perennial. *June.*

Much like the last in habit, with many procumbent, leafy, hairy shoots, but the *leaves* are less lengthened out in their lower part, and all their segments terminate in strong, pale, somewhat cartilaginous, bristly points. *Panicle* rather racemose, of 4 or 5 large *flowers*, on glandular, viscid, bracteated stalks. Segments of the *calyx* short, ovate, erect, conspicuously pointed; the base most glandular. *Germen* broad and short. *Pet.* thrice the length of the calyx, white, with a red stain in the bud, broadly obovate, or almost orbicular, spreading, flat, entire, with 3 principal ribs united at their base, the 2 outermost sending forth many spreading short veins. Upper half of the *germen* hemispherical. *Styles* short. *Stigmas* spatulate, finely downy on the upper side.

19. S. *incurvifolia*. Curve-leaved Saxifrage.

Radical leaves five-cleft; those of the upright shoots three-cleft; segments lanceolate, obtuse, incurved. Segments of the calyx ovate, acute. Petals roundish, slightly cloven.

S. incurvifolia. *Don Tr. of L. Soc. v.* 13. 423.

On alpine rocks in Ireland. *Mr. J. T. Mackay.*
Perennial.
"*Herb* green, densely tufted; very smooth before flowering; subsequently besprinkled with long viscid hairs. *Shoots* upright, short. *Stems* straight, 3 inches high, leafy, bearing 2 or 3 white *flowers*. *Radical leaves* crowded, 5-cleft, palmate; those on the shoots 3-cleft, scarcely shorter than their very broad base, or *foot-stalk*; segments lanceolate, blunt, incurved. *Stem-leaves* palmate; upper ones undivided. *Cal.* as well as the *flower-stalks* furnished with glandular hairs; its segments broadly ovate, acute, without a bristly point. *Pet.* roundish, cloven at the end, simply triple-ribbed."
Such is Mr. Don's description of this plant, of which I have seen no specimen. The notched *petals*, and long inflexed segments of the *leaves*, appear to indicate a distinct species.

20. S. *denudata*. Smooth Grampian Saxifrage.

Radical leaves five-cleft; those of the upright shoots three-cleft; segments linear-awl-shaped, acute, bristle-pointed, smooth. Segments of the calyx lanceolate, minutely pointed. Petals obovate, cloven.

S. denudata. *Don Tr. of L. Soc. v.* 13. 424.

In the Highlands of Scotland.
On the Grampian hills in Angusshire. *Mr. G. Don.*
Perennial.
"*Herb* very smooth, bright green, forming small dense tufts. *Shoots* very short, crowded, erect, densely leafy. *Stems* erect, an inch and half high, purplish, slightly furnished with glandular hairs, and bearing a few *leaves*, with 1 or 2 *flowers*. *Leaves* fleshy and shining; the uppermost undivided. *Fl.* white, bell-shaped. *Cal.* with a few glandular hairs; its divisions lanceolate, each with a small reflexed point. *Pet.* obovate, with 3 simple straight ribs; nicked at the point. *Stam.* yellowish green. *Anth.* bright yellow."
I should suspect this to be a variety of the last, but not having seen it, I cannot controvert Mr. Don's opinion.

21. S. *hypnoides*. Mossy Saxifrage, or Ladies' Cushion.

Radical leaves three- or five-cleft; those of the long, procumbent shoots undivided; all bristle-pointed and fringed. Segments of the calyx ovate, pointed. Petals obovate. Stigmas nearly smooth.

S. hypnoides. *Linn. Sp. Pl.* 579. *Willd. v.* 2. 658. *Fl. Br.* 457. *Engl. Bot. v.* 7. *t.* 454. *Don Tr. of L. Soc. v.* 13. 447. *Freeman*

Ic. t. 2. *Hook. Scot.* 131; *excluding the variety. Fl. Dan. t.* 348. *Lapeyr. Pyren t.* 32.

S. n. 989. *Hall. Hist. v.* 1. 423; *syn. confused.*

S. muscosa, trifido folio. *Tourn. Inst.* 252. *Raii Syn.* 354.

Sedum Alpinum, trifido folio. *Bauh. Pin.* 284. *Moris. v.* 3. 479. *sect.* 12. *t.* 9. *f.* 26.

Sanicula aizoides tridactilites alpina minor, flore albo majore. *Pluk. Almag.* 331. *Phyt. t.* 57. *f.* 7.

β. Saxifraga condensata. *Don Tr. of L. Soc. v.* 13. 448. " *Gmel. Baden. v.* 2. 226. *t.* 3."

On lofty rocky mountains in Wales, Scotland, and the North of England, as well as on limestone rocks, walls and roofs, in less elevated situations, abundantly.

Perennial. *May, June.*

This species, frequently cultivated in gardens, on rock-work, &c. forms broad, elastic, dense tufts, of a light and pleasant green. From the crown of each *root* proceed numerous long, entangled, procumbent, leafy shoots, as well as an upright, generally solitary, slightly leafy *stem,* 4 or 5 inches high, terminating in a corymbose *panicle* of from 3 to 5 white *flowers,* whose *stalks* are a little viscid and glandular, as well as the scattered awl-shaped *bracteas.* The *radical* and lower *stem-leaves* are linear, channelled, and fringed at the base; terminating in 3, rarely 5, lanceolate, spreading, smooth, bristle-pointed lobes; those on the trailing shoots are almost universally undivided, taper-pointed, with a more conspicuous bristle, and are often accompanied by a pale, axillary, oblong bud, as described by Haller, and by John Bauhin, *Hist. v.* 3. 696. *chap.* 9. I have a specimen of this from the collection of C. Bauhin. The *calyx* is half-inferior, with broad, acute, pointed, three-ribbed segments. *Pet.* broadly obovate, flat, triple-ribbed, sometimes tinged with red before expansion; the middle rib occasionally branched near the tip. *Stigmas* spatulate, scarcely at all downy.

Mr. Griffith has favoured me with an alpine Welsh specimen, answering to Mr. Don's account of his *condensata,* but I cannot consider it as a distinct species. Whether it be Gmelin's plant, I have had no opportunity of ascertaining.

Tab. 454 of *Engl. Bot.* was indeed drawn from a very insufficient specimen of *S. hypnoides,* and gives no just idea of the foliage.

With regard to Haller's n. 989 there is great uncertainty. He has undoubtedly confounded the synonyms of various species under that number, and what the Swiss botanists take for *S. hypnoides,* is either the Linnæan *ajugifolia,* a plant in general not well known, I believe, to our British botanists and cultivators, or its near relation the *exarata,* Don n. 92. I should suspect that no real *hypnoides* had ever been gathered in Switzerland, but for Bauhin's specimen above mentioned; having never seen it in any native Swiss herbarium.

22. S. *elongella*. Long-stalked Saxifrage.

Radical leaves three- or five-cleft; those of the upright short shoots undivided or three-cleft; all bristle-pointed, slightly fringed. Primary flower-stalks very long, simple and naked. Calyx pointed. Petals obovate.

S. elongella. *Sm. Tr. of L. Soc. v.* 10. 340. *Engl. Bot. v.* 32. *t.* 2277. *Comp.* 66. *Don Tr. of L. Soc. v.* 13. 449; *but not, it seems, of Donn Cant. ed.* 5. 107.

On moist rocks in the Highlands of Scotland.
On a rock by the river near Lintrathen, in Angusshire. *Mr. G. Don.*
Perennial. *June.*
Smaller than the last, of which Professor Hooker, in a note to his *Fl. Scot.* 132, considers it as a variety. Mr. D. Don on the other hand thinks the *elongella* perfectly distinct. The lateral *shoots* are mostly erect, bearing 3-cleft *leaves;* but when cultivated they become prostrate, with chiefly undivided *leaves,* and some appearance of axillary buds. The *inflorescence* is peculiar, consisting of a terminal, solitary, simple, single-flowered, leafless, slightly glandular and viscid *stalk,* 2 inches long, which, in cultivated plants only, is sometimes accompanied by 1 or 2 divided bracteated stalks, from the bosoms of the upper *leaves;* but nevertheless the whole bears no resemblance to the *panicle* of *S. hypnoides.* In the *calyx* and *petals* indeed there is little difference. The *flower* is rather larger, of a pure white. The lateral veins of the *petals* are not constant.

23. S. *leptophylla*. Narrow-spreading-leaved Saxifrage.

Radical leaves deeply five-cleft; those of the very long procumbent shoots deeply three-cleft or undivided; segments linear-lanceolate, very sharp, widely spreading. Calyx oblong-ovate. Petals spatulate, undivided.

S. leptophylla. "*Pers. Syn. v.* 1. 490." *Don Tr. of L. Soc. v.* 13. 450.

On mountains in Wales; Mr. Macnab. *Don.*
Perennial.
Herb very densely tufted before flowering, and very smooth; afterwards throwing out many loosely spreading *shoots,* besprinkled with a few viscid hairs, and destitute of axillary buds. *Stems* several, erect, 3 or 4 inches high, wavy, polished and nearly smooth, each bearing many drooping white *flowers,* whose stalks are elongated, and furnished with glandular hairs. Segments of the *leaves* remarkably spreading, bristle-pointed, variable in breadth. Segments of the *calyx* oblong-ovate, 3-ribbed, with recurved points. *Pet.* entire, triple-ribbed. *Filam.* white, with

bright yellow *anthers*. Such is Mr. Don's description. I have never seen this species or the next.

24. S. *lætevirens*. Bright-green Alpine Saxifrage.

Leaves deeply five- or three-cleft, with linear acute segments. Shoots long and trailing. Calyx lanceolate, pointed. Petals spatulate, slightly cloven.

S. lætevirens. *Don Tr. of L. Soc. v.* 13. 451.

On the loftiest rocks in the Highlands of Scotland.

In very elevated situations, upon moist rocks, on the mountains of Angusshire and Aberdeenshire. *Mr. G. Don.* On hills to the north of Loch Lomond. *Mr. D. Don.*

Perennial.

Herb of a very bright green, densely tufted, and very smooth, before flowering; afterwards loosely spreading, with long trailing shoots, besprinkled with long hairs, without axillary buds. *Stems* few, erect, smooth, 3 inches high, bearing a few *leaves*, and about 3 *flowers*, rarely one only. The radical *leaves* have 5 segments, those of the shoots 3; all linear, acute, recurved at the points; those on the lower part of the stems are 5-cleft, on the upper undivided, lanceolate, and pointed. *Fl.* white, bell-shaped, drooping in the bud. *Flower-stalks* and *calyx* downy and viscid; segments of the latter lanceolate, 3-ribbed, with recurved points. *Pet.* with straight, simple, green ribs, united above the base. A very distinct and elegant species according to Mr. Don, whose description and characters I have adopted.

25. S. *pedatifida*. Web-foot-leaved Saxifrage.

Radical leaves kidney-shaped, divided in a pedate manner into seven lobes. Panicle cymose, level-topped, many-flowered. Calyx superior, with linear-lanceolate segments, as long as the capsule.

S. pedatifida. *Ehrh. Exsicc.* 15. *Sm. Tr. of L. Soc. v.* 10. 340. *Engl. Bot. v.* 32. *t.* 2278. *Comp.* 67. *Don Tr. of L. Soc. v.* 13. 414.; *excluding the variety.*

S. quinquefida. *Donn Cant. ed.* 5. 107.

In the Highlands of Scotland. *Mr. J. T. Mackay.*

On the mountains of Clova, Angusshire. *Mr. G. Don.*

Perennial. *May.*

Herb larger than most of the last-described, increasing by runners, each terminating in a leafy flowering tuft, from which fresh runners are produced. *Leaves* numerous on the young runners, but most crowded at their base, stalked, finely downy and glutinous, kidney-shaped, deeply divided into 3 principal lobes, of

which the central one is often 3-cleft, the lateral ones more deeply and unequally 3-lobed, giving the whole leaf, though simple, a pedate figure. The lobes are variable in breadth on different plants. *Footstalks* thrice the length of the leaves, bordered, ribbed, purplish, a little hairy. *Stems* a span high, solitary from the leafy crown of each annual shoot, erect, round, slightly leafy, alternately branched, panicled at the top; their *leaves* variously divided, often doubly 3-cleft; the uppermost undivided. *Panicles* variously corymbose, or cymose, level-topped, with downy glutinous *stalks*, and narrow linear *bracteas*; principal one of 10 or 12 *flowers*, one of which is central; the others of fewer. *Fl.* white, small in proportion to the size of the plant, erect. *Cal.* almost entirely superior; its segments erect, linear-lanceolate, acute, 3-ribbed, downy and viscid like the *germen*, which they much exceed in length, but the ripe *capsule* almost equals them in that respect. *Styles* finally much longer than the *calyx*, with nearly smooth *stigmas*. *Caps.* globose. The lobes of the young and narrower *leaves* are more acute, and often bristle-pointed. Those of Ehrhart's specimen are broader, and rather blunter, than in Mr. Don's.

S. *geranioides*, well represented in Gouan's *Illustrationes*, *t.* 18. *f.* 2, differs from this in the more numerous and shallow notches of its *leaves*, and especially in the long, narrow, linear segments of the *calyx*, always rising above the permanent *styles*. The *petals* also are larger and broader, often having 5 ribs. It cannot be confounded with our plant; and *S. ceratophylla*, Sims in *Curt. Mag. t.* 1651, though of the same tribe, differs widely in the *leaves*, *panicle*, and *calyx*. *S. ladanifera* moreover, *Lapeyr. Pyren. t.* 42, appears, on reconsideration, distinct from *pedatifida* and *geranioides*, in the broad, short, recurved segments of its *calyx*, not half so long as the ripe *capsule*, or permanent *styles*. The *leaves* also differ essentially. None of these are natives of Switzerland.

I have thus endeavoured to furnish the British botanist with materials, at least, towards the history of this most difficult genus, correcting my own mistakes, but not presuming to reject, or to decide upon, any thing I have not examined. It cannot but be remarked that many of the specific characters are too indefinite, and not discriminative; the cause of which is that we are not as yet well acquainted with what constitutes a species in *Saxifraga*, nor how to define their differences. Notwithstanding the highly praise-worthy labours of Mr. Don, the exotic kinds, and especially the Swiss ones, require complete revision, by a comparison of original specimens with living ones, both wild and cultivated. The freaks of horticulture are eminently worth attention, as teaching us what to avoid; for distinctions that appear, and vanish again, before our eyes, cannot serve as indications of permanent species. Genuine specific characters

ought to be as evident in dried as in living specimens. Varieties can rarely stand this test.

231. SCLERANTHUS. Knawel.

Linn. Gen. 224. *Juss.* 314. *Fl. Br.* 457. *Lam. t.* 374. *Gærtn. t.* 126.

Knawel. *Dill. Gen* 94. *t.* 3.

Nat. Ord. *Vepreculæ.* 31. Linn. MSS. *Portulaceæ.* Juss. 86. Akin to *Chenopodeæ.* Br. Pr. 412. *Illecebreæ* of Brown. Hook. Scot. p. 2. 260. See Br. Pr. 413.

Cal. inferior, of 1 leaf, tubular and ribbed at the base, contracted at the summit of the tube; limb in 5 deep segments; permanent and hardened after flowering. *Cor.* none. *Filam.* from 5 to 10, awl-shaped, erect, often unequal, shorter than the segments of the calyx, and proceeding from the top of the tube. *Anth.* roundish, of 2 lobes. *Germ.* superior, roundish. *Styles* spreading, thread-shaped, the length of the stamens. *Stigm.* simple, downy. *Caps.* ovate, very thin, of 1 cell, inclosed in the tube of the calyx. *Seeds* 2, convex at one side, flat on the other; *embryo* curved round the outside of the farinaceous *albumen.*

Dry rigid *herbs*, with opposite, linear, combined *leaves.* *Fl.* greenish, aggregate, axillary and terminal; the flowering *branches* downy at one side only.

1. S. *annuus.* Annual Knawel.

Calyx of the fruit with spreading, taper, acute segments. Stems spreading.

S. annuus. *Linn. Sp. Pl.* 580. *Willd. v.* 2. 660. *Fl. Br.* 458. *Engl. Bot. v.* 5. *t.* 351. *Hook. Scot.* 133. *Fl. Dan. t.* 504. *Ehrh. Herb.* 34.

S. n. 1551. *Hall. Hist. v.* 2. 255.

Polygonon Germanis Knawel. *Trag. Hist.* 393. *f.*

Polygonum selinoides, sive Knawel. *Ger. Em.* 566. *f.*

Knawel. *Raii Syn.* 159.

Upright Knawel. *Pet. H. Brit. t.* 9. *f.* 6, bad.

In dry sandy fields common.

Annual. *July.*

Root small, tapering. *Stems* numerous, widely spreading, and partly decumbent, round, leafy, a little downy, branched and many-flowered at the upper part. *Leaves* linear, acute, pale green, combined at the base by a membranous fringed border. *Fl.* small, green, nearly sessile, partly axillary, partly collected

into dense, forked tufts. Tube of the *calyx* ovate, with 10 ribs and as many furrows; limb widely spreading when in flower, less so when in fruit, the segments tapering, acute, the length of the tube. *Stamens* sometimes fewer than 10, and often unequal in length. Rudiments of the *seeds* certainly 2, though one of them is often abortive.

2. S. *perennis*. Perennial Knawel.

Calyx of the fruit with converging obtuse segments, edged with a broad membrane. Stems procumbent.

S. perennis. *Linn. Sp. Pl.* 580. *Willd. v.* 2. 661. *Fl. Br.* 458. *Engl. Bot. v.* 5. *t.* 352. *Hook. Scot.* 133. *Fl. Dan. t.* 563. *Ehrh. Herb.* 44.

S. *n.* 1550. *Hall. Hist. v.* 2. 254.

Knawel incanum, flore majore, perenne. *Raii Syn.* 160. *t.* 5. *f.* 1.

Alchimilla gramineo folio, majori flore. *Vaill. Par.* 4. *t.* 1. *f.* 5.

Saxifraga anglicana alsinefolia. *Ger. Em.* 567. *f. not descr.*

Spreading Knawell. *Pet. H. Brit. t.* 9. *f.* 7.

β. Polygonum cocciferum. *Camer. Epit.* 691. *f.*

P. polonicum cocciferum. *Bauh. Hist. v.* 3. *p.* 2. 378. *f.*

P. minus cocciferum. *Frisch Insect. fasc.* 5. 7. *t.* 2.

In high open sandy fields, rare.

About Elden, Suffolk, plentifully. *Ray.* Near Snettisham, Norfolk. *Mr. Crowe.* Near Bury St. Edmund's. *Sir John Cullum, Bart.* On gravelly banks near Forfar, rare; Mr. D. Don. *Hooker.*

Perennial. *August—October.*

Root woody, branched, with many decumbent or prostrate *stems*, 3 or 4 inches long. Whole *herb* of a glaucous glistening appearance, turning reddish with age, especially the stems. *Leaves* more tapering, crowded, and curved than in the foregoing. Segments of the *calyx* more obtuse, concave, and finally converging, characterized especially by their broad, white, membranous edges, nor is there any question of the two species being clearly distinct.

In several parts of Europe the roots of *S. perennis* are attacked by the insect called *Coccus polonicus*, Linn. Syst. v. 1. 741, which yields a fine crimson dye, and is said likewise to live on *S. annuus*, and some *Potentillæ*. A good account of its economy is given in the Upsal Transactions for 1742. *p.* 51. *t.* 1. I have never been able to find this insect in England upon *S. perennis*. Figures of the plant infested with it are indicated at β.

232. SAPONARIA. Soapwort.

Linn. Gen. 224. *Juss.* 302. *Fl. Br.* 459. *Lam. t.* 376.

Nat. Ord. *Caryophylleæ*. Linn. 22. Juss. 82. Five following

genera the same; also *n.* 241—244, and *n.* 63, 64. See Grammar 159.

Cal. inferior, of 1 leaf, tubular, without angles, naked at the base, five-toothed at the summit, permanent. *Pet.* 5, with narrow angular claws the length of the calyx; limb flat, dilated towards the extremity, obtuse. *Filam.* awl-shaped, the length of the calyx, attached alternately to the claws of the petals; 5 of them later than the rest. *Anth.* oblong, obtuse, incumbent. *Germ.* somewhat stalked, nearly cylindrical. *Styles* 2, erect, parallel, as long as the stamens. *Stigmas* acute, unilaterally downy. *Caps.* ovate-oblong, concealed in the calyx, of 1 cell, opening with 4 teeth. *Seeds* numerous, roundish-kidney-shaped, roughish, attached horizontally to a central, unconnected, columnar *receptacle.*

Herbaceous, smooth or hairy, often viscid. *Leaves* opposite, undivided. *Stem* or *panicle* forked, bracteated. *Fl.* white, reddish, or yellowish. *S. Vaccaria* of Linnæus, *Gærtn. t.* 130, is evidently a *Gypsophila*, in habit and generic character.

[I believe the teeth, or valves, of the *capsule* are, in this whole order, either just as many as the *styles*, or more frequently double the number; never bearing any relation in that respect to the *calyx*, *corolla*, or *stamens*, except incidentally. Linnæus therefore has greatly erred in his descriptions of several of the genera, which many writers, and even excellent draughtsmen, have followed, instead of looking at the plants before them.]

1. S. *officinalis.* Common Soapwort.

Calyx cylindrical. Leaves elliptic-lanceolate.

S. officinalis. *Linn. Sp. Pl.* 584. *Willd. v.* 2. 667. *Fl. Br.* 459. *Engl. Bot. v.* 15. *t.* 1060. *Curt. Lond. fasc.* 2. *t.* 29. *Woodv. suppl. t.* 251. *Hook. Scot.* 134. *Fl. Dan. t.* 543. *Bull. Fr. t.* 257.

S. n. 908. *Hall. Hist. v.* 1. 395.

Saponaria. *Ger. Em.* 444. *f. Dod. Pempt.* 179. *f. Lob. Ic.* 314. *f.*

S. major. *Dalech. Hist.* 822. *f.*

Lychnis Saponaria dicta. *Raii Syn.* 339.

Struthium. *Fuchs. Hist.* 780. *f*, very bad, copied in *Trag. Hist.* 900, and *Bauh. Hist. v.* 3. *p.* 2. 346.

β. Saponaria concava anglica. *Bauh. Pin.* 206. *Prodr.* 103. *Moris. v.* 2. 548. *sect.* 5. *t.* 22. *f.* 53.

Lychnis Saponaria dicta, folio convoluto. *Raii Syn.* 339.

Gentiana concava. *Ger. Em.* 435. *f.*

G. folio convoluto. *Bauh. Hist. v.* 3. 521. *f.*
Hollow Sope-wort. *Pet. H. Brit. t.* 57. *f.* 4.

In meadows, by river sides, and under hedges.

β. First found by Gerarde, in Northamptonshire. On sandy hills 7 miles to the north of Liverpool. *Dr. Bostock.*

Perennial. *August, September.*

Root branching, rather fleshy, with many long creeping scions. *Herb* smooth, or nearly so, a little succulent. *Stems* about 18 inches high, erect, round, leafy; panicled in the upper part. *Leaves* elliptic-lanceolate, acute, 3-ribbed, entire; combined at the base. *Panicle* dense, hemispherical, many-flowered, repeatedly forked, with short, opposite, downy stalks. *Bracteas* opposite, lanceolate, taper-pointed. *Fl.* erect, large, handsome, flesh-coloured, or pale pink, with an oppressive sweetness. *Cal.* somewhat downy, an inch long. *Pet.* with a slight notch at the end; their claws with 4 sharp angles, and crowned with a cloven scale. A variety with double flowers is sometimes found wild, and is frequent in gardens. β has some of the upper *leaves* combined, and sheathing, with a monopetalous *corolla.* It is a curious variety, but has no affinity to *Gentiana.*

233. DIANTHUS. Pink.

Linn. Gen. 225. *Juss.* 302. *Fl. Br.* 460. *Lam. t.* 376. *Gærtn. t.* 129.
Caryophyllus. *Tourn. t.* 174.
Tunica. *Dill. Elth.* 400. *t.* 298.

Nat. Ord. see *n.* 232.

Cal. inferior, of 1 leaf, tubular, cylindrical, striated, permanent; with 5 teeth at the orifice; and 2, or more, pair of opposite, imbricated scales at the base. *Pet.* 5; claws as long as the calyx, narrow, angular, attached to the *receptacle;* limb flat, dilated outwards, obtuse, variously notched. *Filam.* awl-shaped, as long as the calyx, or longer; spreading at the summit; often more or less combined at the base. *Anth.* oval-oblong, compressed, incumbent. *Germ.* somewhat stalked, oval. *Styles* awl-shaped, longer than the stamens. *Stigm.* recurved, pointed, downy along the upper side. *Caps.* covered by the calyx, cylindrical, of 1 cell, opening with 4 teeth. *Seeds* numerous, roundish, compressed, attached to a central, unconnected, columnar *receptacle.*

Herbaceous, or somewhat shrubby, mostly glaucous and generally smooth. *Leaves* opposite, linear, combined, keeled, sometimes rough-edged. *Fl.* terminal, aggregate or solitary, erect, red or white, elegant, often fragrant; disk of their *petals* sometimes hairy.

* *Flowers aggregate.*

1. D. *Armeria.* Deptford Pink.

Flowers aggregate, tufted. Scales of the calyx lanceolate, downy, as long as the tube. Petals serrated.

D. Armeria. *Linn. Sp. Pl.* 586. *Willd. v.* 2. 673. *Fl. Br.* 460. *Engl. Bot. v.* 5. *t.* 317. *Hook. Lond. t.* 134. *Scot.* 134. *Fl. Dan. t.* 230. *Ehrh. Herb.* 145.

Caryophyllus latifolius barbatus minor annuus, flore minore. *Raii Syn.* 337.

C. pratensis. *Ger. Em.* 594. *f.*

Tunica n. 900. *Hall. Hist. v.* 1. 392.

Armeria sylvestris altera, &c. *Lob. Ic.* 448. *f.*

Viola barbata angustifolia. *Dalech. Hist.* 810. *f.* *Bauh. Hist. v.* 3. *p.* 2. 335. *f.*

Deptford Pink. *Pet. H. Brit. t.* 56. *f.* 5.

In pastures, and about hedges, on a gravelly soil.

Annual. *July, August.*

Root tapering. *Herb* grass-green, downy. *Stem* a foot high, leafy; forked and corymbose at the upper part, with straight, stiff branches. *Leaves* linear-lanceolate, keeled, erect; lowermost obtuse and spreading. *Fl.* small, inodorous, speckled with pink and white, only one open at a time in each tuft; their *calyx-scales* remarkably long, taper, ribbed and downy. *Stigmas* nearly sessile.

2. D. *prolifer.* Proliferous Pink.

Flowers aggregate, capitate. Scales of the calyx ovate, obtuse, pointless, membranous, overtopping the tube.

D. prolifer. *Linn. Sp. Pl.* 587. *Willd. v.* 2. 673. *Fl. Br.* 460. *Engl. Bot. v.* 14. *t.* 956. *Fl. Dan. t.* 221. *Ehrh. Phytoph.* 64.

Caryophyllus sylvestris prolifer. *Bauh. Pin.* 209. *Dill. in Raii Syn.* 337. *Seguier Veron. v.* 1. 433. *t.* 7. *f.* 1. *Besl. Hort. Eyst. æstiv. ord.* 14. *t.* 13. *f.* 2.

Tunica n. 901. *Hall. Hist. v.* 1. 393.

Armeria prolifera. *Lob. Ic.* 449. *f.* *Ger. Em.* 599. *f.* *Merr. Pin.* 10.

Betonica coronaria squamosa sylvestris. *Bauh. Hist. v.* 3. *p.* 2. 335. *f.*

β. Dianthus diminutus. *Linn. Sp. Pl.* 587. *Willd. v.* 2. 674.

Caryophyllo prolifero affinis, unico ex quolibet capitulo flore. *Bauh. Pin.* 209.

In gravelly pastures, rare.

In Selsey island, Sussex; Rev. Mr. Manningham. *Dill.* Meadows between Hampton-court and Tuddington. *Merrett.* In the borders of a field opposite to the mill, out of St. Austin's gates,

Norwich. *Mr. Humphrey.* In a marl pit at Landridge hill, Hanley castle, Worcestershire; Mr. Ballard. *Withering.*

Annual. *July.*

Root small, tapering. *Herb* grass-green, smooth, except the edges and ribs of the short, linear, acute *leaves*, which are rough with minute sharp teeth. *Stem* from 3 to 18 inches high, round, rushy, smooth, more or less branched. *Fl.* scentless, in solitary, terminal, stalked heads, encompassed with 4 broad, membranous, dry, concave, obtuse scales, as long as the *calyx*, or longer; besides 2 narrow ones to each *flower*. *Pet.* rose-coloured, inversely heart-shaped, small, smooth.——β is a starved variety, bearing solitary, not aggregate, *flowers*.

** *Flowers solitary, several on the same stem.*

3. D. *Caryophyllus.* Clove Pink, or Carnation.

Flowers solitary. Scales of the calyx almost rhomboid, very short. Petals notched, beardless.

D. Caryophyllus. *Linn. Sp. Pl.* 587. *Willd. v.* 2. 674. *Sm. Tr. of Linn. Soc. v.* 2. 299. *Fl. Br.* 461. *Engl. Bot. v.* 3. *t.* 214. *Ehrh. Pl. Off.* 144.

Caryophyllus simplex, flore minore, pallidè rubente. *Bauh. Pin.* 208. *Raii Syn.* 336.

C. sylvestris tertius, flore pallido suavè rubente. *Lob. Ic.* 443. *f.*

C. sylvestris simplex. *Ger. Em.* 591. *f.*

Caryophylli flores sylvestres. *Camer. Epit.* 351. *f.*

Tunica n. 896. *Hall. Hist. v.* 1. 391.

Wall Pink. *Pet. H. Brit. t.* 56. *f.* 1.

β. Dianthus arenarius. *Huds.* 185, *excluding the syn.*

On old ruinous walls.

On Rochester, Deal, Sandown, and other castles, plentifully. *Huds.* On walls in Norwich, and other old towns.

Perennial. *July.*

Root rather woody, branching at the crown. *Herbage* glaucous, destitute of pubescence. *Stem* branched in a panicled manner, bearing several fragant, pale red *flowers*, solitary at the top of each branch. *Leaves* linear, channelled; finely toothed just above the base; entire and smooth towards the point. Scales of the *calyx* 4, ribbed, pointed, not a quarter so long as the tube; the 2 outermost narrowest. *Pet.* smooth; their outer edge unequally and sharply toothed. *Stam.* sometimes very short and abortive, as represented in *Engl. Bot.*——This is the origin of our fine garden carnations.

Mr. Hudson told me his *D. arenarius* was the common Pheasant's-eye Pink, of which there are so many double varieties. If I mistake not, this has always a few hairs on the disk of each *petal*, near the claw, which indicates a specific difference. It is not,

however, the *arenarius* of Linnæus, nor has it been distinguished by botanists. The *flowers* are white, with a dark purple circle round the mouth. It may perhaps be Mr. Doody's "hairy species, frequent in Kent," noticed by Dillenius in *R. Syn.* 336, at the bottom; and the subject is worth the notice of those who may find wild specimens.

4. D. *deltoides*. Maiden Pink.

Flowers solitary. Scales of the calyx ovate-lanceolate, acute, seldom more than two. Leaves bluntish, somewhat downy. Petals notched, smooth.

D. deltoides. *Linn. Sp. Pl.* 588. *Willd. v.* 2. 676. *Fl. Br.* 462. *Engl. Bot. v.* 1. *t.* 61. *Sm. Tr. of L. Soc. v.* 2. 300. *Hook. Scot.* 134. *Fl. Dan. t.* 577. *Ehrh. Herb.* 115.

Caryophyllus minor repens nostras. *Raii Syn.* 335.

C. montanus purpureus. *Ger. Em.* 593. *f.*

β. Dianthus glaucus. *Linn. Sp. Pl.* 588. *Lightf.* 225.

Tunica ramosior, flore candido, cum corollâ purpureâ. *Dill. Elth.* 400. *t.* 298. *f.* 384.

In pastures, and the grassy borders of fields, on a gravelly or sandy soil. β in the King's Park, Edinburgh, according to Lightfoot.

Perennial. *July—October.*

Root rather woody, much branched and tufted at the crown. *Stems* numerous, decumbent, matted, leafy; when in flower ascending, a span high, alternately branched, slightly downy, each bearing 3 or 4, or more, inodorous, but very pretty, *flowers*. *Leaves* linear-lanceolate, a little downy; rough at the edges. *Cal.* striated, somewhat downy, often purplish, with 2 narrow-ovate, pointed scales, half the length of the tube, often attended by 2 lanceolate ones. *Pet.* unequally notched, pale rose-coloured, with a circle of a deeper hue round the mouth of the flower, which is destitute of all roughness.

β has very glaucous *leaves*, most generally 4 scales to the *calyx*, and white *petals*, with a violet-purple circle.

*** *Stems single-flowered, herbaceous.*

5. D. *cæsius*. Mountain Pink.

Stems single-flowered. Scales of the calyx short, roundish. Leaves rough-edged. Petals unequally notched, hairy.

D. cæsius. *Fl. Br.* 463. *Engl. Bot. v.* 1. *t.* 62. *Sm. Tr. of L. Soc. v.* 2. 302. *Willd. Sp. Pl. v.* 2. 682. *With.* 411.

D. virgineus β. *Linn. Sp. Pl.* 590.

D. glaucus. *Huds.* 185. *Hill Fl. Br. t.* 26. *f.* 1.

Armeriæ species, flore in summo caule singulari. *Raii Syn. ed.* 2. 199. *ed.* 3. 336.

Armerius flos tertius. *Dod. Pempt.* 176. *f.*
Caryophyllus sylvestris humilis, flore unico. *Bauh. Pin.* 209.
C. virgineus. *Ger. Em.* 594. *f.* 12.
C. repens humilis minimus vulgatissimus rubellus. *Lob. Ic.* 445. *f.*
C. sylvestris, Alsines, holosteæ arvensis glabræ foliis, flore unico, calyce barbato. *Pluk. Almag.* 87. *Phyt. t.* 81. *f.* 3, very bad.
Caryophylleus flos sylvestris primus. *Clus. Hist. v.* 1. 282. *f*, with an excellent and correct description.
Tunica rupestris, folio cæsio molli, flore carneo. *Dill. Elth.* 401. *t.* 298. *f.* 385.

On dry limestone rocks, very rare.
On the abrupt precipices of Chedder rocks, Somersetshire. *Brewer, Dillenius, Lightfoot, and others.*
Perennial. *June, July.*
Root woody, branched at the crown, with many leafy tufts. *Herbage* very glaucous. *Stems* from 4 to 6 inches high, erect, simple, leafy, smooth, quadrangular, very rarely indeed bearing more than one *flower*. *Leaves* linear-lanceolate, rather bluntish, various in breadth, rough-edged; the radical ones numerous, crowded; those on the stem about 3 pair. *Fl.* delightfully fragrant, of a delicate pale rose-colour. *Cal.* furrowed, with 4 roundish-ovate, striated, bluntly pointed, scales. *Petals* doubly, or unequally, notched, streaked, and bearded with purplish hairs, on the disk, towards the claw.
The old synonym and figure of Clusius, Lobel, Gerarde, Dodonæus, &c., hitherto left in great uncertainty, can scarcely belong to any species but this; which, though little understood, proves, as Lobel says, a very general plant. I have wild specimens from Piedmont, Switzerland, Bohemia and Germany. Some call it *glaucus*, some *virgineus*, and others *plumarius*; all erroneously, except that Linnæus did indeed refer it, as a variety, to his *virgineus*, but without comparing specimens, nor do they materially accord. Nothing can be better than the description in Clusius, which is of primary authority. Dillenius having rejected the synonyms of Dodonæus and Clusius for the species in question, I was led into the same error; see *Tr. of Linn. Soc. v.* 2. 297; though Mr. Dryander warned me, at the time, that he had found Dillenius incorrect in synonyms; which his edition of Ray's *Synopsis* too often confirms.

DECANDRIA TRIGYNIA.

CUCUBALUS *baccifer*, which has hitherto found a place in every British Flora, and which, in *Fl. Brit.* 464, stands as the only representative of its genus, must here be omitted. Dillenius, in his edition of Ray's *Synopsis*, 267, speaks of this plant as having been "gathered in hedges in Anglesea, (*Mona*,) by Mr. Foulkes of Llanbeder, and sent by him to Dr. Richardson." Now it appears, by a subsequent letter from the same gentleman, preserved in the archives of the Richardson family, and published in the *Correspondence of Linnæus and other naturalists*, *London* 1821, *v.* 2. 171, that he, Mr. Foulkes, only received *an account* of the *Cucubalus* "from one who pretended to know plants very well," but that he could never find it, nor has this account ever been confirmed. The figure in *Engl. Bot. v.* 22. *t.* 1577 was necessarily drawn from a garden specimen.

234. SILENE. Catchfly, or Campion.

Linn. Gen. 226. *Juss.* 302. *Fl. Br.* 465. *Lam. t.* 377. *Gærtn. t.* 130.
Cucubalus. *Linn. Gen.* 225; (*except C. baccifer, which is Tourn. t.* 176.) *Juss.* 302. *Lam. t.* 377. *f.* 2.
Viscago. *Dill. Elth.* 416. *t.* 309—317.

Nat. Ord. see *n.* 232.

Cal. inferior, of 1 leaf, tubular, angular or furrowed, with 5 marginal teeth, or oblong segments, permanent. *Pet.* 5; claws narrow, as long as the calyx, bordered, dilated upward, attached to the *receptacle*, which is cylindrical, sometimes much elongated and columnar; limb flat, involute in the bud, obtuse, either undivided or cloven, either naked at the base, or furnished with 2, simple or divided, distinct or combined, upright scales, which form a crown at the mouth of the flower. *Filam.* awl-shaped, 5 alternate ones attached to the petals, and rather later than the rest. *Anth.* oblong, or roundish. *Germ.* cylindrical. *Styles* short, erect. *Stigmas* oblong, oblique, downy along the upper or inner side. *Caps.* covered by the calyx, ovate-oblong, often stalked, imperfectly 3-celled, opening by 6 teeth, more or less deeply separated, at the summit. *Seeds* numerous, kidney-shaped, stalked, roughish, attached to the central column.

Herbaceous, occasionally somewhat shrubby, often annual,

either hairy or smooth. *Stem* leafy, branched, or forked, round, jointed, mostly erect; rarely simple and single-flowered. *Leaves* opposite, undivided, entire, with short combined *footstalks*. *Stipulas* none. *Fl.* terminal or lateral, mostly erect, red, blush-coloured, or white; sometimes fragrant at night. Linnæus founded his genus *Cucubalus* on the absence of scales at the base of the limb, which nevertheless are present in *C. baccifer*, and which not only would often separate species most nearly akin, but are inconstant in the same species. It is very remarkable that this great botanist should have attributed 5 teeth, or valves, to the *capsule*; whereas they are always 6, being naturally double the number of the *styles*. Yet several authors have followed him.

* *Stem racemose, occasionally somewhat forked.*

1. S. *anglica*. English Catchfly.

Hairy and viscid. Petals slightly cloven. Flowers lateral, alternate, erect. Lower capsules spreading or reflexed.

S. anglica. *Linn. Sp. Pl.* 594. *Willd. v.* 2. 691. *Fl. Br.* 465. *Engl. Bot. v.* 17. *t.* 1178. *Curt. Lond. fasc.* 4. *t.* 30. *Dicks. H. Sicc. fasc.* 13. 18.

Viscago cerastei foliis, vasculis pendulis, anglica. *Dill. Elth.* 417. *t.* 309. *f.* 398.

Lychnis sylvestris, flore albo minimo. *Raii Syn.* 339.

L. sylvestris hirsuta annua, flore minore albo. *Vaill. Par.* 121.

L. arvensis anglica. *Lob. Illustr.* 97.

In cultivated fields, on a gravelly or sandy soil.

About Combe in Surrey. *Huds. Curt.* In Cambridgeshire. *Ray, Relhan.* Between Dundee and St. Andrews; and near Perth. *Mr. Mackay.* In Hertfordshire. *Mr. T. F. Forster.* At Lakenham and Costesy, near Norwich.

Annual. *June, July.*

Root fibrous, rather small. *Herb* of a darkish green, shortly and densely hairy, slightly glutinous, very various in luxuriance. *Stem* branched, spreading, or recumbent, unequally hairy, tumid above each joint. *Leaves* lanceolate, or obovate, single-ribbed, acute, entire, 1½ or 2 inches long, slightly succulent. *Fl.* solitary, from the bosoms of the upper leaves, on short stalks, erect. *Cal.* cylindrical, afterwards ovate, with 5 hairy viscid green ribs, the intermediate spaces pale and membranous. *Pet.* small, white, or faintly tinged with red, cloven, but not deeply; each with a white cloven scale at the summit of the claw. *Capsule* tawny, smooth, rigid, invested with the permanent calyx, and nearly as long. Several of the lowermost stand on longer stalks, more or less spreading, or bent downwards.

2. S. *quinquevulnera.* Variegated Catchfly.

Hairy. Petals roundish, entire. Flowers lateral, alternate, erect, as well as the capsules. Calyx somewhat shaggy.

S. quinquevulnera. *Linn. Sp. Pl.* 595. *Willd. v.* 2. 691. *Fl. Br.* 466. *Engl. Bot. v.* 2. *t.* 86. *Dicks. H. Sicc. fasc.* 18. 12.
Lychnis vulnerata. *Scop. Carn. v.* 1. 309.
L. hirta minor, flore variegato. *Dodart Mem.* 99. *f. ed. Amst.* 601. *t.* 23.

In sandy corn-fields, rare.
Near Wrotham, Kent. *Hudson.*
Annual. *June, July.*
Root small, tapering. *Herb* of a rather darker green than the preceding, more densely hairy, but less viscid, and generally less luxuriant. *Cal.* with many long, loose, shaggy, white hairs, intermixed with the shorter and thicker pubescence, especially about the upper part, and rather smaller when in fruit, as well as more upright, the lowermost of all only being very rarely divaricated or reflexed. Limb of each *petal* orbicular, wavy, but not cloven; the disk of a deep but rich crimson; the margin white, as well as the cloven scales.
Frequently cultivated in gardens, where its flowers, though small, make a brilliant appearance.

** *Stem forked; branches panicled.*

3. S. *inflata.* Bladder Campion or Catchfly.

Flowers copiously panicled, drooping. Petals cloven half way down, mostly without scales. Calyx smooth, inflated, reticulated. Stem erect. Leaves ovate, acute.

S. inflata. *Fl. Br.* 467. *Comp.* 68. *Prodr. Fl. Græc. v.* 1. 293. *Hook. Scot.* 134, *α.*
Cucubalus inflatus. *Salisb. Prodr.* 302.
C. Behen. *Linn. Sp. Pl.* 591. *Willd. v.* 2. 684. *Huds.* 186. *Engl. Bot. v.* 3. *t.* 164. *Fl. Dan. t.* 914. *Dreves Bilderb. t.* 50. *Ehrh. Pl. Off.* 454. *Bull. Fr. t.* 321.
Lychnis Behen. *Scop. Carn. v.* 1. 305.
L. sylvestris quæ Been album vulgò. *Bauh. Pin.* 205. *Raii Syn.* 337.
Viscago n. 913. *Hall. Hist. v.* 1. 397.
Been album officinarum. *Bauh. Hist. v.* 3. 356. *f.*
Behen album. *Ger. Em.* 678. *f.*
B. album, sive Polemonium. *Dod. Pempt.* 172. *f.*
Polemonium Dodonæi. *Dalech. Hist.* 1186. *f.*
Melandryum Plinii quorundam. *Clus. Hist. v.* 1. 293. *f.*
β. Lychnis Papaver spumeum latifolium vulgare hirsutum. *Moris. Bles.* 124.

In fields, pastures, and by way sides, common.

β near Cromer, Norfolk. *Mr. D. Turner.*

Perennial. *July.*

Root whitish, greatly subdivided, and tufted, at the crown. *Herb* glaucous, and generally very smooth; but in β the foliage, as well as the leafy part of the stem, is clothed with short dense hairs. *Stem* round, hollow, erect, branched, 2 or 3 feet high; naked and panicled at the top. *Leaves* sessile, single-ribbed, ovate, or ovate-lanceolate, varying much in width, about 2 inches long. *Panicle* terminal, repeatedly forked, spreading, many-flowered, with very smooth round branches. *Bracteas* small, membranous, lanceolate, acute, in pairs under each partial stalk. *Flowers* drooping or pendulous, stalked, inodorous. *Cal.* elliptical, very smooth, bladdery, pale, often purplish, with 20 green, not prominent, ribs, connected by a net-work of similar transverse veins. *Pet.* nearly twice the length of the calyx, white, with a spreading limb, which is divided half way down, into 2 narrow-obovate segments, tumid, and sometimes doubly crested, at their base, just above the dilated summit of each claw. *Recept.* thick and angular, as long as the young, often purple, *germen*, which it elevates with the petals and stamens. *Anthers* often diseased, so as to produce a copious purple powder instead of *pollen*. *Caps.* ovate, rigid, with 6 marginal recurved teeth.

Dr. Withering says the boiled leaves taste like peas, and proved of great use in a famine at Minorca in 1685.

4. S. *maritima.* Sea Campion or Catchfly.

Flowers slightly panicled, or solitary, terminal. Petals cloven, each with a cloven acute scale. Calyx smooth, inflated, reticulated. Stem recumbent. Leaves lanceolate.

S. maritima. *With.* 414. *Fl. Br.* 468. *Engl. Bot. v.* 14. *t.* 957. *Willd. Sp. Pl. v.* 2. 700. *Hull* 127.

S. amœna. *Huds.* 188. *Lightf.* 227.

S. uniflora. *Roth. Catal. v.* 1. 52.

S. inflata β. *Hook. Scot.* 135.

Cucubalus Behen β. *Linn. Sp. Pl.* 591. *Fl. Dan. t.* 857.

Lychnis maritima repens. *Bauh. Pin.* 205. *Raii Syn.* 337.

L. marina anglicana. *Bauh. Hist. v.* 3. *p.* 2. 357. *f. Ger. Em.* 469. *f. Lob. Ic.* 337. *f. Dalech. Hist.* 1361. *f.*

L. perennis angustifolia marina anglica procumbens. *Moris. v.* 2. 535. *sect.* 5. *t.* 20. *f.* 2.

On the sandy or stony sea coast, as well as in the beds of alpine torrents.

Perennial. *August, September.*

This resembles the last in its glaucous colour, and general aspect, but is certainly a distinct species, retaining all its characters

when propagated by seed in a garden. The *root* creeps extensively. The *stems* are about a span high; prostrate and branched in the lower part; the flowering extremities ascending, or erect. *Leaves* lanceolate, not ovate, scarcely above an inch long; always smooth, as far as I have seen. *Fl.* larger and handsomer than the foregoing, more upright, often solitary, sometimes 2 or 3 together, never perhaps more. *Calyx* strongly reticulated. *Pet.* broader, in general less deeply cloven, each with an acute divided scale at the base of the limb. *Styles* occasionally 4 or 5. *Caps.* almost globular, not half so long as the permanent calyx. The edges of the *leaves* are often finely and sharply toothed.

**** Stem, and branches if any, forked, leafy.*

5. S. *conica*. Striated Corn Catchfly.

Stem forked. Petals cloven, each with a cloven acute scale. Leaves softly downy. Calyx when in fruit conical, with thirty furrows.

S. conica. *Linn. Sp. Pl.* 598. *Willd. v.* 2. 698. *Fl. Br.* 470. *Engl. Bot. v.* 13. *t.* 922. *Fl. Græc. v.* 5. *t.* 423. *Jacq. Austr. t.* 253. *Dicks. H. Sicc. fasc.* 18. 11.

S. conoidea. *Huds.* 189.

Lychnis sylvestris angustifolia, caliculis turgidis striatis. *Bauh. Pin.* 205. *Dill. in Raii Syn.* 341.

L. sylvestris altera incana, caliculis (not cauliculis) striatis. *Lob. Ic.* 338. *f;* bad, all the flowers tetrapetalous.

L. sylvestris incana Lobelii. *Ger. Em.* 470. *f. the same.*

Muscipulæ majori, calyce ventricoso, similis. *Bauh. Hist. v.* 3. 350. *f.* with the same fault.

In sandy fields, rare.

A little to the north of Sandown castle plentifully. *J. Sherard and Rand.* Opposite the warren house at New Romney, Kent. *Rev. Mr. Stacy.*

Annual. *July.*

Root small, tapering. *Herbage* soft and downy, of a dull greyish green. *Stem* upright, from 3 inches to 2 feet high, usually repeatedly forked; in a starved state sometimes single-flowered; always leafy, round, finely downy. *Leaves* sessile, linear-lanceolate, acute, single-ribbed, downy, combined and slightly membranous at the base. *Fl.* from the forks of the stem, stalked, solitary, erect, fragrant in an evening with the scent of a honeysuckle. *Cal.* cylindrical, with deep taper teeth; abrupt at the base; and having 30 close, longitudinal, downy, green ribs, which as the fruit advances become separated by the pale, somewhat downy, membranous body of the calyx, then become turgid and ovate, or conical. *Petals* small, each with a red cloven limb, and a deeply divided scale; the claw also terminating up-

wards in an angular tooth at each side. *Caps.* ovate, rigid, not quite so long as the calyx.

S. conoidea has broader and smoother *leaves*, with less divided *petals*; but this last character is variable, and I believe there is no permanent distinction between the two. Old authors have confounded their figures. That of Lobel and Gerarde, indicated above, is very faulty, yet cannot be taken for any thing else than our *S. conica*. *Lychnis sylvestris secunda, Clus. Hist. v.* 1. 288, is an excellent representation of the *conoidea*. The same cut may be seen in *Ger. Em.* 470. *n.* 7; and it stands in *Lob. Ic.* 339, as *L. sylvestris tertia* of Clusius; an evident mistake, which was previously committed in Dalechamp's *Hist.* 818. This cut gives a far more correct idea of *S. conica* than what was intended for that plant. *Muscipula, sive Viscaria, Lob. Ic.* 453. *Advers.* 190. *f.* 1, referred by Linnæus, on Bauhin's authority, to his own *S. Muscipula*, is also very like *conica*.

6. S. *noctiflora*. Night-flowering Catchfly.

Stem forked. Petals cloven, each with a cloven abrupt scale. Calyx with ten hairy ribs; its teeth linear, almost as long as the tube.

S. noctiflora. *Linn. Sp. Pl.* 599. *Willd. v.* 2. 701. *Fl. Br.* 470. *Engl. Bot. v.* 5. *t.* 291. *Hook. Scot.* 135.

Viscago n. 911. *Hall. Hist. v.* 1. 396.

Lychnis noctiflora. *Bauh. Pin.* 205. *Raii Syn.* 340. *Schreb. Lips.* 31.

L. frutescens noctiflora. *Moris. v.* 2. 538. *sect.* 5. *t.* 20. *f.* 12.

Ocimoides noctiflorum. *Camer. Hort.* 109. *t.* 34.

Ocimastrum noctiflorum, flore albo. *Besl. Hort. Eyst. æstiv. ord.* 7. *t.* 12. *f.* 3.

In fields on a sandy or gravelly soil.

In Cambridgeshire. *Ray, Relhan.* Oxfordshire. *Sibth.* Very common about Wetherby, Yorkshire. *Sir T. Frankland.* Not rare in Suffolk, or Norfolk, especially on the west side of Norwich.

Annual. *July.*

Root small, tapering. *Herbage* dark green, soft and downy, rather viscid. *Stem* erect, round, repeatedly forked, spreading, from one to two feet high. *Leaves* lanceolate, acute, imperfectly 3-ribbed, 2 or 3 inches long; the lower ones broader, and obovate. *Fl.* solitary in each fork of the stem, stalked, erect, expanding about sun-set, and closing early in the morning, very sweet-scented during the night. *Cal.* large, elliptic-oblong, pale, with 10 green hairy ribs, connected by small veins; the teeth narrow, erect, green and hairy, almost half as long as the tube when the flower first opens. *Pet.* with a pale blush-coloured, deeply divided limb, involute during the day-time, as well as in the bud, and having a short, blunt, cloven scale, or crown. *Caps.* ovate, on a thick stalk.

**** *Panicle forked, corymbose, leafless.*

7. S. *Armeria.* Common, or Lobel's, Catchfly.

Panicles forked, level-topped, many-flowered. Petals cloven, each with a double awl-shaped scale. Calyx and leaves smooth. Capsule not longer than its stalk.

S. Armeria. *Linn. Sp. Pl.* 601. *Willd. v.* 2. 705. *Fl. Br.* 471. *Engl. Bot. v.* 20. *t.* 1398. *Fl. Dan. t.* 559.

Viscago n. 916. *Hall. Hist. v.* 1. 398.

Lychnis viscosa purpurea latifolia lævis. *Bauh. Pin.* 205. *Dill. in Raii Syn.* 341.

L. sylvestris prima. *Clus. Hist. v.* 1. 288. *f.*

Armerius flos quartus. *Dod. Pempt.* 176. *f.*

Muscipula, sive Armoraria altera, et Armerius flos tertius Dodonæi. *Lob. Ic.* 454. *f.*

M. sive Armeria altera. *Dalech. Hist.* 809. *f.*

M. Lobelii. *Ger. Em.* 601. *f.*

In fields, or on banks, or old walls, a doubtful native.

On the banks of the river, half a mile below Chester. *Dr. Richardson.*

Annual. *July, August.*

Root tapering. *Herb* smooth, glaucous. *Stem* erect, round, alternately branched, leafy, with a brown, hairy and glutinous ring, under 2 or 3 of the upper joints, by which small flies are caught. *Leaves* sessile, ovate-oblong, of a light glaucous green, very smooth. *Panicles* terminal, erect, repeatedly forked, dense, corymbose, with a pair of small acute *bracteas* under each subdivision. *Fl.* on very short stalks, except the lowermost, erect, crowded, inodorous. *Cal.* tubular, swelling upwards, very smooth, often reddish, with 10 ribs, and 5 teeth, not 10 as described in *Engl. Bot.*; the base abrupt. Limb of the *petals* rose-coloured, varying to white, obovate, cloven, always spreading, with an upright, tapering, acute, reddish pair of scales at the base. *Caps.* ovate, within the calyx, elevated on a columnar stalk, often more than its own length.

Often cultivated, as a hardy annual, in flower-gardens, from whence it may occasionally escape into the country.

***** *Stem panicled, imperfectly forked.*

8. S. *nutans.* Nottingham Catchfly.

Panicle with drooping, unilateral, partly forked, branches. Petals deeply cloven, with linear segments, and an acute cloven scale. Leaves elliptic-lanceolate, downy.

S. nutans. *Linn. Sp. Pl.* 596. *Willd. v.* 2. 694. *Fl. Br.* 466. *Engl. Bot. v.* 7. *t.* 465. *Hook. Scot.* 135. *Fl. Dan. t.* 242. *Ehrh. Herb.* 155.

Viscago n. 915. *Hall. Hist. v.* 1. 397.
Lychnis sylvestris alba nona Clusii. *Raii Syn.* 340. *ed.* 2. 201. *Ger. Em.* 470. *f. Deering Nott.* 137.
L. sylvestris nona. *Clus. Hist. v.* 1. 291. *f.*
L. silvestris, seu montana latifolia viscosa, florum petalis suprà albis, subtùs virescentibus, interdiu se contrahentibus. *Moris. v.* 2. 535. *sect.* 5. *t.* 20. *f.* 4.
Broad White Catchfly. *Pet. H. Brit. t.* 57. *f.* 7.

β. Silene paradoxa. *Fl. Br.* 467; *excluding the synonyms of Linnæus, Jacquin and Zannoni.* See *Fl. Br.* 1397.
Cucubalus viscosus. *Huds.* 186; *excl. the syn. of Linnæus and Tilli.*
Lychnis major noctiflora Dubrensis perennis. *Raii Syn.* 340. *ed.* 2. 211. *Hist. v.* 2. 995.

On limestone rocks, or chalky cliffs.
On the walls of Nottingham castle, and thereabout; T. Willisel. *Ray.* In Dovedale, Derbyshire. *Mr. Woodward.* Near North Queen's ferry, Scotland. *Mr. Mackay.* In Caernarvonshire. *Mr. Pennant.* On rocks about Knaresborough, Yorkshire. *Rev. Archdeacon Peirson.*
β. On Dover cliffs; Mr. Newton. *Ray.* Gathered there by *Mr. T. F. Forster.*
Perennial. *June, July.*
Root tapering, somewhat fleshy, bearing one or more upright flowering stems, and several recumbent leafy shoots. *Stems* 12 or 18 inches high, bent and reclining in the lower part only, otherwise erect, simple, leafy, round, rough with short dense hoary pubescence. *Leaves* in like manner hoary all over, about 2 inches long, lanceolate, acute, single-ribbed; the lower and radical ones more obovate, tapering at the base into bordered *footstalks*. *Panicle* terminal, nearly erect, of several pairs of opposite, spreading, drooping, bracteated, downy, more or less forked, branches, each bearing from 3 to 5 flowers, the terminal branch most erect. *Flowers* drooping, white, most expanded, and very sweet-scented, in an evening. *Cal.* half an inch long, swelling upwards, membranous, with 10 downy viscid ribs, often purplish. *Pet.* twice the length of the calyx, each with a narrow claw, a deeply cloven, narrow, obtuse, involute limb, and a double acute scale. *Styles* either very short, or in some flowers much elongated and purplish. *Stigmas* long, obtuse, downy. *Caps.* ovate, bluntly angular, on a shortish thick stalk. *Seeds* rugged.
β, a long disputed plant, I have seen brought from Dover cliffs, and cultivated by Mr. Forster. It seems, as Ray thought, not distinct from the common *S. nutans*, though with somewhat broader *leaves*, and, according to its first discoverer Mr. Newton, much less viscidity. In the *panicle, flowers*, and various length of *styles*, I can find no difference. Miller mistook *S. paradoxa* for the Dover Catchfly, and sent it as such to Linnæus; but I

cannot learn that this grows at Dover, nor are Buddle's and Petiver's specimens, mentioned in *Fl. Br.* 1397, perhaps any thing else than *S. nutans*, of a larger size than usual, and ill dried.

9. S. *Otites*. Spanish Catchfly.

Panicle with tufted, somewhat umbellate, upright branches. Flowers diœcious. Petals linear, undivided, naked. Leaves spatulate, roughish.

S. Otites. *Fl. Br.* 469. *Comp.* 68. *Prodr. Fl. Græc. v.* 1. 300.
Cucubalus Otites. *Linn. Sp. Pl.* 594. *Willd. v.* 2. 688. *Huds.* 186. *Engl. Bot. v.* 2. *t.* 85. *Fl. Dan. t.* 518. *Ehrh. Beitr. v.* 7. 142. *Pl. Off.* 214.
Viscago n. 920. *Hall. Hist. v.* 1. 399.
Lychnis Otites. *Scop. Carn. v.* 1. 305.
L. viscosa, flore muscoso. *Bauh. Pin.* 206. *Raii Syn.* 340.
L. sylvestris sesamoides minor, flore muscoso, luteo-herbaceo. *Mentz. Pugill. t.* 2. *f.* 2.
Sesamoides magnum salmanticum. *Clus. Hist. v.* 1. 295. *f.* *Ger. Em.* 493. *f.*
Muscipula, sive Armoraria altera. *Lob. Ic.* 453. *f.*
M. altera, flore muscoso. *Dalech. Hist.* 684. *f.*
Spanish Catchfly. *Pet. H. Brit. t.* 57. *f.* 11.

In dry sandy, or gravelly, open grassy fields, chiefly in Norfolk, Suffolk, or Cambridgeshire.
Between Swaffham and Narford, Norfolk, on the grassy ridges of the road. Also about Thetford, Barton mills, and Bury.
Perennial. *July*, *August*.
Root strong, yellowish, cylindrical, running deep into the ground; tufted at the crown. *Stem* erect, from 1 to 2 feet high, round, leafy, downy, very clammy about the middle of the upper joint, below the panicle. *Leaves* small, spatulate, acute, roughish and viscid, each tapering at the base into a long *footstalk*; radical ones numerous, tufted, and rather the largest, 2 or 3 inches long including the stalk. *Panicle* oblong, erect, of many opposite, unequal, somewhat umbellate, simple or compound, erect branches. *Bracteas* crowded, membranous, acute. *Fl.* numerous, but small and inconspicuous, upright, greenish, diœcious, as even Caspar Bauhin remarked; yet abortive *stamens* often occur in the fertile ones, as well as abortive *pistils* in the others. *Petals* small, sometimes wanting, narrow, pale yellow, quite simple and entire, without scales. *Styles* variable from 2 to 5, but usually 3. *Caps.* elliptical, filling the *calyx*, and projecting a little out of it, opening by 6 teeth. I know not whether that number varies with the styles, but it is probable.

****** *Stems single-flowered.*

10. S. *acaulis*. Moss Campion.

Stems tufted, much branched. Leaves linear, acute, fringed at the base. Stalks terminal, solitary, single-flowered. Calyx smooth.

S. acaulis. *Linn. Sp. Pl.* 603. *Fl. Lapp. n.* 184. *ed.* 1. 145. *ed.* 2. 152. *Willd. v.* 2. 709. *Fl. Br.* 472. *Engl. Bot. v.* 16. *t.* 1081. *Hook. Scot.* 135. *Lightf.* 227. *t.* 12. *f.* 1. *Dicks. H. Sicc. fasc.* 1. 8. *Fl. Dan. t.* 21. *Allion. Pedem. v.* 2. 83. *t.* 79. *f.* 1.
Cucubalus acaulis. *Linn. Sp. Pl. ed.* 1. 415. *Huds.* 187.
Viscago n. 919. *Hall. Hist. v.* 1. 399.
Lychnis alpina minima. *Raii Syn.* 341.
L. alpina pumila, folio gramineo. *Bauh. Pin.* 206. *Dill. Elth.* 206. *f.*
L. ocymoides muscosa. *Barrel. Ic. t.* 379, 380.
Caryophyllus pumilio alpinus. *Ger. Em.* 593. *f.*
Ocymoide moscoso alpino. *Pon. Bald.* 199. *f.* 1.
Muscus alpinus, flore insigni, dilutè rubente. *Bauh. Hist. v.* 3. 760. *f.*

On the summits of the loftiest mountains.
Upon the steep and higher rocks of Snowdon, almost every where; Mr. Llwyd. *Ray.* Found in Devonshire, by Mr. Gidley. *Dill.* On all the elevated mountains of Scotland. *Hooker.* Near the summit of Ben Lomond plentifully.
Perennial. *June, July.*
The very long and branching *roots* penetrate deeply into the clefts of rocks, and are crowned by short, branched, densely tufted, leafy, moss-like *stems;* for the plant is not really *acaulis,* though destitute of the elevated stem proper to most of its genus. *Leaves* opposite, crowded, linear, bright green, smooth, except a slight fringe at the base, as well as on the broad pale *footstalks,* which sometimes extends to the acute point of each leaf. *Fl.* terminal, solitary, on smooth simple stalks, variable in length. *Cal.* smooth, tinged with violet, the teeth blunt, minutely fringed. *Pet.* of an elegant rose-colour, occasionally white, slightly, and not always, cloven at the extremity, and bearing a minute cloven scale at the base of the limb. *Caps.* ovate, becoming cylindrical as it ripens, and finally twice as long as the calyx, opening by 6 valves at the summit. The *flowers* have no scent, but they constitute one of the most charming ornaments of the green-headed Scottish Alps, which, seen from the still loftier Ben Lomond, resemble the waves of a boundless ocean.

235. STELLARIA. Stitchwort.

Linn. Gen. 226. *Juss.* 301. *Fl. Br.* 472. *Lam. t.* 378. *Gærtn. t.* 130.
Alsine. *Tourn. t.* 126. *f.* A, B, D, E.

Nat. Ord. see *n.* 232.

Cal. inferior, of 5 ovate-lanceolate, concave, acute, spreading, permanent leaves. *Pet.* 5, deeply cloven, spreading, flat, oblong, withering, without claws or scales. *Nect.* 5 notched glands, at the base of the stamens. *Filam.* thread-shaped, shorter than the petals, 5 alternate ones shortest. *Anth.* roundish. *Germ.* nearly globular, superior. *Styles* 3, capillary, spreading. *Stigmas* obtuse, downy. *Caps.* ovate, cylindrical, or globular, covered by the calyx and withered corolla, of one cell and 6 valves. *Seeds* numerous, roundish, compressed.

Some foreign species have the lobes of the *petals* subdivided.

Herbaceous, smooth or downy, with weak, straggling, forked, leafy *stems*. *Leaves* opposite, undivided. *Flowers* white, inodorous, on solitary, or forked and panicled, *stalks*.

1. S. *nemorum.* Wood Stitchwort.

Lower leaves heart-shaped, stalked; upper ovate, sessile. Panicle repeatedly forked.

S. nemorum. *Linn. Sp. Pl.* 603. *Willd. v.* 2. 710. *Fl. Br.* 473. *Engl. Bot. v.* 2. *t.* 92. *Hook. Scot.* 135. *Fl. Dan. t.* 271.

Myosotis n. 886. *Hall. Hist. v.* 1. 388.

Alsine montana, folio smilacis instar, flore laciniato. *Moris. v.* 2. 550. *sect.* 5. *t.* 23. *f.* 2. *Dill. in Raii Syn.* 347.

A. altissima nemorum. *Bauh. Pin.* 250.

A. montana hederacea maxima. *Column. Ecphr.* 289. *t.* 290. *f.* 2.

In moist woods, and the neighbourhood of shady springs, in the north of England, and low-lands of Scotland.

By Casterton mill, near Kirkby Lonsdale, Westmoreland, and in other parts of that county. Also at Meavis bank, near Edinburgh, as mentioned by Dr. Parsons. Mr. Robson found it in Cliff-wood, near Darlington.

Perennial. *May, June.*

Root slender, creeping. *Stems* lax and spreading, round, hollow, leafy, with a few soft scattered hairs, pointing every way, chiefly about the upper part; forked and panicled at the summit. *Leaves* pale green, tender and rather succulent, most hairy when young; lower ones heart-shaped, on long stalks; upper ovate, pointed, larger, and sessile. *Fl.* numerous, pure white, on downy *stalks*. *Styles* never more than 3. *Capsules* deflexed as they ripen.——Haller supposed the *S. dichotoma* of Linnæus to be this plant in a more advanced state, having lost its lower *leaves*. But the real *dichotoma* from Siberia, published in *Sm. Plant. Ic. t.* 14, is evidently very different.

2. S. *media*. Common Chickweed, or Stitchwort.

Leaves ovate. Stems procumbent, with a hairy alternate line on one side. Stamens from five to ten.

S. media. *With.* 418. *Fl. Br.* 473. *Engl. Bot. v.* 8. *t.* 537. *Comp.* 69. *Hook. Scot.* 135. *Wahlenb. Lapp.* 125.

Alsine media. *Linn. Sp. Pl.* 389. *Willd. v.* 1. 1511. *Huds.* 131. *Relh.* 128. *Sibth.* 105. *Abbot* 70. *Curt. Lond. fasc.* 1. *t.* 20. *Ehrh. Pl. Off.* 374. *Fl. Dan. t.* 438 *and t.* 525. *Bauh. Pin.* 250. *Moris. v.* 2. 550. *sect.* 5. *t.* 23. *f.* 4.

A. n. 880. *Hall. Hist. v.* 1. 387.

Alsine. *Matth. Valgr. v.* 2. 458. *f. Camer. Epit.* 850. *f. Dalech. Hist.* 1232. *f.*

A. vulgaris, seu Morsus gallinæ. *Raii Syn.* 347. *Bauh. Hist. v.* 3. *p.* 2. 363. *f.*

A. minor. *Dod. Pempt.* 29. *f.*

A. minor, sive media. *Ger. Em.* 611. *f.*

A. minor recensiorum. *Lob. Ic.* 460. *f.*

A. major. *Fuchs. Hist.* 21. *f.*

A. primum genus. *Fuchs. Ic.* 10. *f.*

Morsus gallinæ. *Trag. Hist.* 385. *f.*

Common every where in waste and cultivated ground.

Annual. *March—November.*

Root tapering, small. *Herb* very variable in luxuriance, but in every part much smaller than the preceding. *Stem* copiously branched from the bottom, loosely spreading, leafy, brittle, smooth, except a dense hairy, lateral line, which is interrupted and turned aside, at every joint. *Leaves* stalked, ovate, acute, single-ribbed. *Fl.* small, white, solitary, on simple, axillary *stalks*, which are likewise hairy at one side, and deflexed after flowering. *Cal.* hairy. *Stam.* 3, 5, or 10, each with a gland at the base, on the outside. *Caps.* oblong, pellucid, splitting into 6 valves.

Small birds and poultry eat the *seeds*, and whole herb. The latter may be boiled for the table, like Spinach.

This plant is, in every character, notwithstanding the variable number of the *stamens*, so truly a *Stellaria*, that we cannot but wonder at its having been referred to *Alsine*; and still more, that Linnæus should, in his *Fl. Lapp. n.* 186, have confounded it and the preceding with *Cerastium aquaticum*.

3. S. *holostea*. Greater Stitchwort.

Leaves lanceolate, finely serrated. Petals inversely heart-shaped. Calyx without ribs.

S. holostea. *Linn. Sp. Pl.* 603. *Willd. v.* 2. 711. *Fl. Br.* 474. *Engl. Bot. v.* 8. *t.* 511. *Curt. Lond. fasc.* 2. *t.* 30. *Hook. Scot.* 136. *Fl. Dan. t.* 698, *bad.*

Alsine n. 884. *Hall. Hist. v.* 1. 388.

Caryophyllus arvensis glaber, flore majore. *Bauh. Pin.* 210.
C. holosteus arvensis glaber, flore majore. *Raii Syn.* 346.
Gramen. *Fuchs. Hist.* 136. *f.*
G. leucanthemum. *Ger. Em.* 47. *f.* *Dod. Pempt.* 563. *f.* *Dalech. Hist.* 422. *f.*
G. alterum. *Camer. Epit.* 743. *f.*
Holosteum Ruellii. *Lob. Ic.* 46. *f.*
Euphrasia gramen. *Trag. Hist.* 329. *f.*
Great Stitchwort. *Pet. H. Brit. t.* 58. *f.* 1.

In groves, thickets, and dry hedge bottoms, common.
Perennial. *May.*

Root creeping. *Stems* 2 feet high, square, leafy; panicled at the top; weak and recumbent at the bottom; angles rough in the upper part. *Leaves* 2 or 3 inches long, spreading almost horizontally, glaucous, single-ribbed, rough-edged, taper-pointed. *Fl.* large and handsome, of a brilliant white, on long downy panicled stalks, with a pair of small taper-pointed *bracteas* at the base of each stalk. *Cal.* concave, minutely veiny, smooth, neither keeled nor ribbed. *Pet.* broad, cloven only half way down. *Stam.* always 10, and *styles* 3. *Caps.* globular.

The *stems* have a strong, woody, elastic, internal structure, like those of the last-described, and many others of this tribe; but are otherwise remarkably brittle. The herb sticks, by their rough angles, and the edges of the *leaves*, to any thing that comes in its way.

4. S. *graminea*. Lesser Stitchwort.

Leaves linear-lanceolate, entire. Panicle terminal, spreading. Calyx three-ribbed, nearly as long as the petals.

S. graminea. *Linn. Sp. Pl.* 604. *Willd. v.* 2. 711. *Fl. Br.* 475. *Engl. Bot. v.* 12. *t.* 803. *Hook. Scot.* 136. *Fl. Dan. t.* 414. *Wahlenb. Lapp.* 123. *Hoffm. Germ. for* 1800. 203.
S. arvensis. *Hoffm. Germ. for* 1791. 152. *Ehrh. Herb.* 126.
Alsine n. 882. *Hall. Hist. v.* 1. 387.
Caryophyllus arvensis glaber, flore minore. *Bauh. Pin.* 210.
C. holosteus arvensis glaber, flore minore. *Raii Syn.* 346.
Gramini Fuchsii leucanthemo affinis et similis herba. *Bauh. Hist. v.* 3. *p.* 2. 361. *f.*
Holostii Ruellii diversitas. *Lob. Ic.* 46. *f.*
Lesser Stitchwort. *Pet. H. Brit. t.* 58. *f.* 3.

In heathy pastures, or bushy places, on a gravelly or sandy soil.
Perennial. *May.*

Smaller than the last, and of a grass green, not glaucous. The weak and brittle, smooth, leafy *stems* support themselves on the surrounding bushes, and the delicate wide-spreading *panicles*, with their little white starry blossoms, seem suspended in the air. The *leaves* are not much more than an inch long, smooth

in every part, as are the slender, angular, numerous, finally horizontal, *flower-stalks*. *Calyx-leaves* with 3 strong ribs. *Pet.* with deep narrow lobes, rather longer than the calyx. *Anth.* reddish, or flesh-coloured. *Caps.* oblong.

5. S. *glauca*. Glaucous Marsh Stitchwort.

Leaves linear-lanceolate, entire, glaucous. Flower-stalks partly scattered, erect. Calyx three-ribbed, half as long as the petals.

S. glauca. *With.* 420. *Fl. Br.* 475. *Engl. Bot. v.* 12. *t.* 825. *Hook. Scot.* 136. *Don H. Brit.* 11.

S. palustris. *Retz. Prodr.* 106. *Willd. Sp. Pl. v.* 2. 712. *Ehrh. Herb.* 35.

S. media. *Sibth.* 141. *Abbot* 96.

S. graminea *β. Linn. Sp. Pl.* 604. *Fl. Suec. ed.* 2. 150. *Huds.* 190.

Caryophyllus holosteus arvensis medius. *Raii Syn.* 347.

Alsine folio gramineo angustiore palustris. *Dill. Giss.* 173. *app.* 69.

A. n. 44. *Gmel. Sib. v.* 4. 145. *t.* 61. *f.* 2.

Middle Stitchwort. *Pet. H. Brit. t.* 58. *f.* 2.

In moist meadows, bogs, and the margins of ditches and ponds, where the soil is gravelly.

Perennial. *June, July.*

Of a middle size between the two last species; distinguished from *S. holostea* by its perfect smoothness, shorter *leaves*, and 3-ribbed *calyx*; from *S. graminea* by its glaucous hue, and larger *petals*; from both by its erect, more dispersed, often axillary and solitary, much less panicled, *flower-stalks*. The *petals* are almost twice as long as the calyx; more deeply cloven, and narrower, than in *S. holostea*; though larger and rather broader, than in the *graminea*. *Anth.* of a pale reddish hue.

Gmelin's synonym, rightly applied in *Fl. Brit.* on the authority of a specimen from the author in the Linnæan herbarium, is erroneously transferred by Dr. Wahlenberg to *S. graminea*.

6. S. *uliginosa*. Bog Stitchwort.

Leaves elliptic-lanceolate, entire, with a callous tip. Flowers irregularly panicled, lateral or terminal. Petals shorter than the calyx.

S. uliginosa. *Murr. Gott.* 55. *Fl. Br.* 476. *Engl. Bot. v.* 15. *t.* 1074. *Curt. Lond. fasc.* 6. *t.* 28. *With.* 420. *Hull.* 97. *Sibth.* 141. *Abbot* 96. *Hook. Scot.* 136. *Wahlenb. Lapp.* 124. *Ehrh. Herb.* 6. *Roth. Germ. v.* 1. 191. *v.* 2. *p.* 1. 489. *Scholl. Barb.* 105.

S. graminea *γ*. *Linn. Fl. Suec. ed.* 2. 150. *Huds.* 190. *Relh.* 170.

S. hypericifolia. *Wiggers Holsat.* 34. *Allion. Pedem. v.* 2. 115.

S. Dilleniana. *Leers* 107.

S. aquatica. *Pollich v.* 1. 429.

" S. lateriflora. *Krock. Siles. v.* 2. 52. *t.* 4."

S. fontana. *Jacq. Coll. v.* 1. 327.
S. Alsine. *Hoffm. Germ. for* 1791. 153. *t.* 5. *Willd. Sp. Pl. v.* 2. 713.
Alsine n. 881. *Hall. Hist. v.* 1. 387.
A. aquatica folio Gratiolæ, stellato flore. *Dill. Giss.* 58. *app.* 39.
A. longifolia uliginosis proveniens locis. *Bauh. Hist. v.* 3. *p.* 2. 365. *f. Raii Syn.* 347.
A. aquatica media. *Bauh. Pin.* 251. *Moris. v.* 2. 550. *sect.* 5. *t.* 23. *f.* 8.
A. fontana. *Ger. Em.* 613. *f;* good.
A. Hypericifolio. *Vaill. Par.* 9.; descr. of the petals erroneous.
Bog Stitchwort. *Pet. H. Brit. t.* 58. *f.* 4.

In rivulets, ditches, springs and watery spots.
Annual. *June.*
Root fibrous, small. *Herb* smooth, pale and somewhat glaucous. *Stems* weak, generally much and alternately branched, square, leafy. *Leaves* not an inch long, lanceolate, or somewhat elliptical, acute, with a brownish callous tip, a single mid-rib, and numerous lateral branching veins. *Flower-stalks* axillary as well as terminal, usually 2 or 3 together, some simple, some divided, slender, angular, smooth, swelling under the flowers. *Bracteas* opposite, small, membranous, awl-shaped. *Fl.* small, white. *Calyx-leaves* taper-pointed, 3-ribbed; the outer ones sometimes downy at the edges. *Pet.* deeply divided, narrow, much shorter than the calyx. *Styles,* according to Dr. Stokes, varying occasionally to 4 or 5.
The synonyms of this species evince what the nomenclature of botany would be, if every writer were to run wild after his own fancy. I have retained the original specific name, given by Murray. Willdenow has perpetuated one of the worst; for every *Stellaria* has, at one time or other, been called *Alsine.*

7. S. *scapigera.* Many-stalked Stitchwort.

Leaves linear-lanceolate, rough-edged. Stem shorter than the flower-stalks. Calyx three-ribbed, as long as the petals.

S. scapigera. *Willd. Sp. Pl. v.* 2. 716. *Engl. Bot. v.* 18. *t.* 1269. *Fl. Br.* 1397. *Comp.* 69. *Hook. Scot.* 137. *Don H. Brit.* 10.

By the sides of rivulets on the Scottish mountains.
In Perthshire, and about Loch Nevis, Invernesshire. *Mr. G. Don.*
Perennial. *June.*
Stems erect, very short, tufted, simple or subdivided, densely leafy, angular. *Leaves* crowded, an inch or inch and half long, lanceolate, or almost linear, single-ribbed, rough at the edges, fringed at the base, of a grass green, turning reddish as they fade. *Flower-stalks* very numerous, rising much above the stem and foliage, axillary, solitary or aggregate, simple, slender, angular, smooth, naked, single-flowered. *Fl.* small, white. *Cal.*

acute, partly fringed, strongly 3-ribbed, full as long as the narrow, deeply divided *petals*. *Anth.* red. The *capsule* seems to be globular.

The *leaves*, though sometimes narrower, are often as broad as represented in *Engl. Bot.* The crowded *leaves*, short *stems*, and very numerous long *flower-stalks*, at once distinguish this species, which appears not to have been observed out of Britain.

8. S. *cerastoides*. Alpine Stitchwort.

Leaves elliptic-oblong, bluntish, smooth. Stems with a hairy lateral line, about two-flowered. Flower-stalks downy all over. Calyx with a single downy rib.

S. cerastoides. *Linn. Sp. Pl.* 604. *Fl. Suec. ed.* 2. 151. *Willd. v.* 2. 714. *Fl. Br.* 477. *Engl. Bot. v.* 13. *t.* 911. *Pl. Ic. ex Herb. Linn. t.* 15. *Dicks. Tr. of L. Soc. v.* 2. 290. *H. Sicc. fasc.* 2. 11. *With.* 421. *Hook. Scot.* 136. *Fl. Dan. t.* 92. *Jacq. Coll. v.* 1. 254. *t.* 19 ? *Retz. Obs. fasc.* 1. 18. *Gunn. Norveg. v.* 2. 119. *t.* 6. *f.* 2. *Wahlenb. Lapp.* 126.

Myosotis n. 890. *Hall. Hist. v.* 1. 390. *Davall.*

In the Highlands of Scotland.

On Ben Nevis. *Mr. Dickson.* Upon mountains to the north of Invercauld. *Mr. J. Mackay.* Mountains above Killin. *Mr. Borrer.*

Perennial. *June.*

Root creeping. *Stems* diffuse, 3 or 4 inches long, leafy, branched at the bottom, marked with a hairy lateral line, which was first noticed by the excellent delineator of the figures in *Engl. Bot.* Each stem terminates in 1 or 2, rarely 3, upright white *flowers*, whose simple slender *stalks* are glutinous, and uniformly downy in every direction, one or both of them bearing a pair of small *bracteas*. *Leaves* about $\frac{1}{2}$ an inch long, entire, single-ribbed, recurved, uniformly smooth in the original Linnæan specimens, as well as in every British, Lapland, or Swiss one that I have seen; so that I think there must be some mistake in the *Flora Scotica*. *Calyx-leaves* with a hairy keel, the outermost sometimes furnished with 2 small lateral ribs. *Pet.* nearly twice the length of the calyx, cloven scarcely half way down. *Styles* almost invariably 3; I have once only seen 4, and Wulfen mentions 5. *Caps.* twice as long as the calyx, cylindrical, with 6 teeth, though that number is doubtless increased to 8 or 10, when the styles are more than their proper number. *Seeds* rough.

veral botanists have confounded this plant with the smooth variety of *Cerastium alpinum*, which is essentially distinct, though Linnæus himself seems, by his herbarium, to have sometimes fallen into the same error. I suspect Wulfen has done so; for though his specimens, sent by Jacquin, are really *Stellaria cerastoides*, his figure is more like *Cerastium alpinum*, particularly

in the form of the *leaves* and *petals*; and what he relates of the hairiness or smoothness of the *stem*, agrees with that plant, not with our *Stellaria*.

236. ARENARIA. Sandwort.

Linn. Gen. 226. *Juss.* 301. *Fl. Br.* 477. *Lam. t.* 378. *Gærtn. t.* 130.

Nat. Ord. see *n.* 232.

Cal. inferior, of 5 oblong, pointed, spreading, mostly ribbed, permanent leaves. *Pet.* 5, ovate or lanceolate, undivided. *Nect.* 5 or 10 glands at the base of the stamens. *Filam.* awl-shaped, 5 of them rather the shortest, or latest. *Anth.* roundish. *Germ.* ovate, superior. *Styles* 3, short, spreading. *Stigmas* downy. *Caps.* ovate, covered by the permanent calyx and withered corolla, of one cell, and 3, rarely 6, valves. *Seeds* numerous, kidney-shaped, roughish, attached to a short central column.

Herbs of humble growth, with numerous, or much divided, slender *stems*; opposite, mostly narrow, entire, undivided *leaves*; and small, white or reddish, inodorous *flowers*, with coloured *anthers*. In *A. tenuifolia*, especially, the number of *stamens* varies from 3 to 10. The valves of the *capsule* are either 3 or 6, never, except by some strange accident, 5, though they have been so described. The pubescence of the herbage is sometimes variable. The best specific characters are found in the various forms and ribs of the *calyx*.

* *Stipulas none.*

1. A. *peploides*. Sea Chickweed, or Sandwort.

Leaves ovate, acute, fleshy. Calyx obtuse, without ribs.

A. peploides. *Linn. Sp. Pl.* 605. *Willd. v.* 2. 716. *Fl. Br.* 477. *Engl. Bot. v.* 3. *t.* 189. *Hook. Scot.* 137. *Fl. Dan. t.* 624.
Honkenya peploides. *Ehrh. Beitr. v.* 2. 181.
Alsine marina, foliis Portulacæ. *Loes. Pruss.* 12. *t.* 2. *Raii Syn.* 351.
A. littoralis, foliis Portulacæ. *Bauh. Pin.* 251.
Anthyllis lentifolia, sive Alsine cruciata marina. *Ger. Em.* 622. *f.*
A. prior lentifolia, peplios effigie maritima. *Lob. Advers.* 195. *f. Ic.* 468. *f. Bauh. Hist. v.* 3. *p.* 2. 374. *f. very bad, copied from Lobel.*

On the sandy sea coast frequent.
Perennial. *June, July.*

Root creeping very extensively. *Herb* smooth and succulent, bright green, recumbent. *Stem* much branched, angular, pale, leafy. *Leaves* sessile, ovate, acute, thick, entire, single-ribbed, about half an inch long. *Stipulas* none. *Fl.* from the forks of the stem, few, solitary, on short stalks, small and inconspicuous. *Cal.* smooth, purplish, obtuse, without ribs or veins. *Pet.* white, obovate, spreading in the sun-shine only. *Glands* 10, alternate with the *stamens*, which are ranged in one uniform row. *Styles* very short. *Caps.* roundish. *Seeds* few, large, obovate, black, dotted.

The peculiar habit might countenance Ehrhart's separation of this plant from *Arenaria*; but the nectariferous glands, on which he chiefly depends for a generic character, are too little known, and perhaps too various, in the rest of the species, to be depended on. The other broad-leaved kinds appear to connect this with the narrow-leaved ones.

2. A. *trinervis*. Plantain-leaved Chickweed, or Sandwort.

Leaves ovate, acute, stalked, ribbed. Calyx obscurely three-ribbed, with a rough keel.

A. trinervis. *Linn. Sp. Pl.* 605. *Willd. v.* 2. 718. *Fl. Br.* 478. *Engl. Bot. v.* 21. *t.* 1483. *Curt. Lond. fasc.* 4. *t.* 31. *Hook. Scot.* 137. *Fl. Dan. t.* 429. *Allion. Pedem. v.* 2. 111.

Alsine n. 878. *Hall. Hist. v.* 1. 386.

A. plantaginis folio. *Bauh. Hist. v.* 3. *p.* 2. 363. *f.* 364. *Raii Syn.* 349.

In shady bushy places, where the soil is rather moist.

Annual. *May, June.*

Root small, tapering. *Stems* weak, branching, a foot high, leafy, round, downy all over. *Leaves* pale, ovate, acute, fringed, with 3, rarely 5, ribs; the lower ones smallest, and on longest stalks; largest measuring about an inch; all destitute of *stipulas*. *Flower-stalks* simple, slender, finely downy, solitary, from the forks of the stem, and summits of the branches, twice the length of the leaves. *Bracteas* none. *Fl.* small, white, drooping as the seeds ripen. *Calyx-leaves* longer than the *petals*, lanceolate, acute, with membranous edges, and 3 not very conspicuous ribs; the middle one most downy. *Caps.* ovate, thin, opening with 6 revolute teeth. *Seeds* kidney-shaped, black and smooth.

3. A. *serpyllifolia*. Thyme-leaved Sandwort.

Leaves ovate, nearly sessile, rough. Calyx hairy; three outermost of its leaves five-ribbed.

A. serpyllifolia. *Linn. Sp. Pl.* 606. *Willd. v.* 2. 720. *Fl. Br.* 479. *Engl. Bot. v.* 13. *t.* 923. *Curt. Lond. fasc.* 4. *t.* 32. *Hook. Scot.* 138. *Fl. Dan. t.* 977.

Alsine n. 875. *Hall. Hist. v.* 1. 386.
A. minor multicaulis. *Bauh. Pin.* 250. *Raii Syn.* 349.
A. minor. *Fuchs. Hist.* 23. *f.* *Dalech. Hist.* 1233. *f.*
A. tertium genus. *Fuchs. Ic.* 12. *f.*
A. minima. *Dod. Pempt.* 30. *f.* *Ger. Em.* 612. *f.*
A. petræa. *Ger. Em.* 612. *f.*

On walls and dry sandy ground, common.
Annual. *July.*
The *stem* is copiously divided from the very bottom, forked in the upper part, leafy, round, rigid, rough with very short deflexed hairs, forming a little bushy herb, 3 or 4 inches high. *Leaves* small, ovate, acute, ribbed, dotted, minutely fringed, greyish green, without *stipulas*. *Fl.* small, white, solitary, from the forks of the stem, on downy, round, upright *stalks*. *Calyx-leaves* ovate, acute, hairy, with a membranous border; the 2 innermost with 3 ribs only. *Pet.* rather shorter than the calyx. *Caps.* ovate, with 6 teeth. *Seeds* tawny, roughish.

4. A. *tenuifolia*. Fine-leaved Sandwort.

Leaves awl-shaped, pointed. Stem panicled. Capsules erect, of three valves. Petals lanceolate, shorter than the calyx.

A. tenuifolia. *Linn. Sp. Pl.* 607. *Willd. v.* 2. 725. *Fl. Br.* 481. *Engl. Bot. v.* 4. *t.* 219. *Hook. Scot.* 138. *Dicks. H. Sicc. fasc.* 10. 11. *Ehrh. Phyt.* 25. *Fl. Dan. t.* 389.
Alsine n. 865 and 866. *Hall. Hist. v.* 1. 383.
A. tenuifolia. *Bauh. Hist. v.* 3. *p.* 2. 364. *f.* *Raii Syn.* 350. *Vaill. Par.* 7. *t.* 3. *f.* 1. *Segu. Veron. v.* 1. 418. *t.* 6. *f.* 2.
A. viscosa. *Schreb. Lips.* 30.

In dry barren sandy fields, and on walls, but not very frequent.
In several parts of Cambridgeshire. *Ray.* At Oxburgh, Norfolk. *Mr. Pitchford.* Worcestershire. *Mr. Ballard.* Oxfordshire. *Sibth.*
Annual. *June.*
Stem like the last, but the hairs, if any, are long and spreading. *Leaves* awl-shaped, 3-ribbed at the back, combined at the base. *Flower-stalks* capillary, erect, longer than the leaves. *Fl.* very small, white, with red *anthers*. *Calyx-leaves* lanceolate, 3-ribbed, taper-pointed, with membranous edges. *Stam.* certainly 10 in general, but they are found in Switzerland of every number from 3 to 10, and may vary no less in England. *Styles* 3. *Caps.* very delicate and pellucid, of 3 narrow valves, recurved at the point, longer than the calyx. The whole herb is occasionally hairy or smooth, sometimes viscid; which, with the variableness of the *stamens*, caused Haller to describe it twice over; and Linnæus sometimes confounded it with his own *Alsine segetalis*, a very distinct plant.

5. A. *verna*. Vernal Sandwort.

Leaves awl-shaped, bluntish. Stem panicled. Calyx-leaves with three remote equal ribs; longer than the petals.

A. verna. *Linn. Mant.* 72. *Willd. Sp. Pl. v.* 2. 724. *Fl. Br.* 482. *Engl. Bot. v.* 8. *t.* 512. *Dicks. Dr. Pl.* 6. *Hort. Sicc. fasc.* 13. 17. *Hook. Scot.* 138. *Lightf.* 231. *Jacq. Austr. t.* 404.
A. saxatilis. *Huds. ed.* 1. 168. *Penn. Tour in Wales, t.* 2. *f.* 1.
A. juniperina. *With.* 424.
A. laricifolia. *Ibid.* 424. *Lightf.* 232.
A. cæspitosa. *Ehrh. Herb.* 55.
Alsine n. 867. *Hall. Hist. v.* 1. 383.
A. pusilla, pulchro flore, folio tenuissimo nostras. *Raii Syn.* 350.
A. caryophylloides tenuifolia, flore albo punctato. *Pluk. Almag.* 22. *Phyt. t.* 7. *f.* 3.
A. alpina glabra, tenuissimis foliis, floribus albis. *Herm. Parad.* 12. *f.*
A. saxatilis et multiflora, capillaceo folio. *Vaill. Par.* 7. *t.* 2. *f.* 3.
Mount Chickweed. *Pet. H. Brit. t.* 59. *f.* 4.

In mountainous pastures in the north, among fragments of quartz and spar.
About lead mines in Derbyshire; as well as in Yorkshire, Westmoreland, and Wales. On Arthur's Seat, and many other hills near Edinburgh.
Perennial. *May—August.*
Root long, cylindrical, strong and rather woody, branching under ground. *Stems* very numerous, ascending, 3 or 4 inches high, round or somewhat angular, leafy, slightly downy and viscid; panicled at the summit, rarely single-flowered; forming dense tufts, crowned with innumerable white starry *flowers*, whose red *anthers* Plukenet mistook for spots. The *leaves* are smooth, 3-ribbed beneath, with blunt points; the upper ones shortest and broadest. *Bracteas* small and short, with 3 ribs. *Flower-stalks* often downy. *Calyx-leaves* ovate, acute, hairy, membranous at the edges; furnished at the back with 3 equal, distant, not crowded, ribs. *Pet.* obovate. *Caps.* cylindrical, of 3 valves, longer than the calyx. *Seeds* compressed, rough.
Some rather larger or smaller specimens, not to be called varieties, have been occasionally mistaken for *A. saxatilis, juniperina,* or *laricifolia* of Linnæus; all very different from this and from each other, and hitherto not found wild in Britain.

6. A. *fastigiata*. Level-topped Sandwort.

Leaves awl-shaped. Stem erect, straight, densely corymbose. Petals very short. Lateral ribs of the calyx dilated.

A. fastigiata. *Engl. Bot. v.* 25. *t.* 1744. *Comp.* 70. *Hook. Scot.* 138.
A. fasciculata. *Jacq. Austr. v.* 2. 49. *t.* 182. *Don H. Brit.* 136.
Alsine n. 870. *Hall. Hist. v.* 1. 384. *t.* 17. *f.* 2.
Stellaria rubra. *Scop. Carn. v.* 1. 316. *t.* 17.

On the Highland mountains of Scotland.
On rocks on the mountains of Angusshire and Fifeshire. *Mr. G. Don.*
Annual. *June.*
Root small, tapering and zigzag. *Stems* either solitary or numerous, 4 or 5 inches high, alternately branched, leafy, round, nearly smooth, often purplish. *Leaves* very slender, smooth, erect, permanent; dilated, combined, and 3-ribbed at the base. *Fl.* in forked, level-topped, crowded *panicles*. *Calyx-leaves* all nearly equal, smooth, taper-pointed, remarkable for the great breadth of their ivory-like lateral ribs. *Pet.* much shorter than the calyx, white, obtuse. *Stam.* 10, rather longer than the petals. *Caps.* oblong, of 3 valves. *Seeds* compressed, beautifully toothed like a wheel, each on a long slender stalk.
The true *A. fasciculata* is very different in several respects, especially in the long unequal leaves of the *calyx*, whose lateral ribs are not dilated.

7. A. *ciliata*. Fringed Sandwort.

Leaves spatulate, roughish; fringed at the base. Stems numerous, branched, procumbent, downy. Flowers terminal, solitary. Calyx-leaves with five or seven ribs.

A. ciliata. *Linn. Sp. Pl.* 608. *Willd. v.* 2. 718. *Engl. Bot. v.* 25. *t.* 1745. *Comp.* 70. *Wulf. in Jacq. Coll. v.* 1. 245. *t.* 16. *f.* 2. *Fl. Dan. t.* 346.
Alsine n. 876. *Hall. Hist. v.* 1. 386. *t.* 17. *f.* 3.
A. serpilli folio, multicaulis et multiflora. *Segu. Veron. v.* 1. 420. *t.* 5. *f.* 2.
On mountains in Ireland.
Upon the limestone cliffs of a high mountain adjoining to Ben Bulben, in the county of Sligo. *Mr. J. T. Mackay.*
Perennial. *August, September.*
Root copiously branched at the crown, with very numerous recumbent, leafy, round, downy *stems*, about a finger's length at most, composing dense, bright green tufts. *Leaves* in pairs crossing each other, recurved, spatulate, obtuse, single-ribbed, somewhat fleshy, roughish; tapering, and most evidently fringed, at the base. *Fl.* terminal, large and conspicuous, on long, mostly solitary, *stalks*, clothed with short recurved hoary pubescence. *Calyx-leaves* ovate, acute, concave, hairy, green, with a strong keel, and 2 or 3 close ribs at each side; the margin membranous. *Pet.* of a brilliant white, spreading, longer than the calyx. *Caps.* short, ovate, of 6 valves.
A. multicaulis of Linnæus appears to me the same plant in a less

luxuriant state. By culture the *stems* become forked, bearing 3, 4 or 5 flowers.

** *Stipulas membranous.*

8. A. *rubra*. Purple Sandwort.

Leaves linear, bristle-pointed. Stipulas membranous, sheathing. Seeds compressed, angular, roughish.

A. rubra. *Linn. Sp. Pl.* 606. *Willd. v.* 2. 721, *α*. *Fl. Br.* 479. *Engl. Bot. v.* 12. *t.* 852. *Hook. Scot.* 138.
A. campestris. *Allion. Pedem. v.* 2. 114.
Alsine n. 872. *Hall. Hist. v.* 1. 385.
A. spergulæ facie minor. *Bauh. Pin.* 251.
Spergula purpurea. *Raii Syn.* 351. *Bauh. Hist. v.* 3. *p.* 2. 719. 2. *f.*
Polygonum foliis gramineis, spergulæ capitibus. *Locs. Pruss.* 203. *t.* 63.
Purple Spurry. *Pet. H. Brit. t.* 59. *f.* 8.

In sandy fields abundantly.
Annual. *July, August.*
Root tapering. *Stems* numerous, prostrate in a circular form, flaccid, branched, round, leafy, smooth, except towards the extremity, where they are generally clothed with prominent glandular hairs, such as cover the *flower-stalks* and *calyx*. *Leaves* mostly opposite, often in pairs, narrow, flat, glaucous or hoary, rather succulent, acute, with a small terminal bristle; each with a pair of shining, combined, membranous *stipulas* at the base. *Fl.* on simple *stalks*, finally reflexed, from the forks of the stem, or the ends of the branches, where they form leafy clusters. *Cal.* densely hairy and clammy, without ribs, rather longer than the shining, light purple, *petals*. *Caps.* as long as the calyx, ovate, of 3 valves. *Seeds* numerous, compressed, somewhat wedge-shaped, rough at the outer edge with small sharp points.
The brilliant little *flowers* open in bright weather only.

9. A. *marina*. Sea Spurrey Sandwort.

Leaves semicylindrical, fleshy, pointless. Stipulas membranous, sheathing. Seeds compressed, bordered, smooth.

A. marina. *Fl. Dan. t.* 740. *Fl. Br.* 480. *Engl. Bot. v.* 14. *t.* 958. *Hull. ed.* 2. *v.* 1. 129. *Hook. Scot.* 139. *Roth. Germ. v.* 1. 189. *v.* 2. *p.* 1. 482.
A. rubra *β*. *Linn. Sp. Pl.* 606. *Willd. v.* 2. 722. *Huds.* 193. *Lightf.* 230.
A. media. *With.* 422.
Spergula maritima, flore parvo cæruleo, semine vario. *Dill. in Raii Syn.* 351. *Giss. app.* 30.
β. Arenaria media. *Linn. Sp. Pl.* 606, *excl. the syn. Willd. v.* 2. 722.

A. marina. *With.* 422. *Allion. Pedem. v.* 2. 114.
A. rubra γ. *Huds.* 193.
Alsine spergulæ facie media. *Bauh. Pin.* 251. *Raii Syn.* 351.
A. Spergula major maritima &c. *Moris. v.* 2. 551. *sect.* 5. *t.* 23. *f.* 15.
Spergula marina. *Dalech. Hist.* 1385. *f. Bauh. Hist. v.* 3. *p.* 2. 719. 2. *f.* 720. *Ger. Em.* 1125. *n* 4.
Sea Spurry. *Pet. H. Brit. t.* 59. *f.* 7.

On the sandy sea coast, and in pastures adjacent.
Annual. *June, July.*
Root spindle-shaped. *Herb* like the preceding, but stouter and more succulent. *Leaves* convex beneath, smooth, destitute of a terminal bristle. *Fl.* and *capsule* much larger, especially the latter, which is twice the length of the *calyx*. *Seeds* round, flat, smooth, encircled with a membranous border, variable in breadth and colour, even in seeds of the same capsule, as Dr. Stokes first observed. In β this border is more uniformly dilated, white and striated. But the species of *Spergula* hereafter to be described invalidate even this, as a specific distinction, and justify Professor Hooker's doubt, whether both these plants ought not to be considered as varieties of *A. rubra*. I think nevertheless the *leaves*, and the different size of the *capsules*, indicate a specific distinction; and the *seeds*, though various in their border, never have the shape and roughness of *A. rubra*.

237. CHERLERIA. Cyphel.

Linn. Gen. 227. *Juss.* 301. *Fl. Br.* 483. *Hall. It. Helv. t.* 1. *Lam. t.* 379.

Nat. Ord. see *n.* 232.

Cal. inferior, of 5 lanceolate, concave, equal, permanent leaves. *Pet.* none. *Nect.* 5 minute cloven glands, at the inside of 5 of the stamens, opposite to the calyx. *Filam.* awl-shaped, the 5 alternate ones attached to the backs of the nectaries. *Anth.* roundish. *Germ.* oval, superior. *Styles* 3, short. *Stigmas* obtuse. *Caps.* ovate, of 1 cell, and 3 valves. *Seeds* several, angular.
A smooth, dwarf, tufted, perennial herb, closely allied to *Arenaria*, but distinguished by the situation of its *nectaries*, and the want of *petals*. Seguier however describes 5 undivided greenish *petals*, alternate with the *calyx*, which nobody else has seen.

1. C. *sedoides*. Mossy Cyphel. Dwarf Cherleria.

C. sedoides. *Linn. Sp. Pl.* 608. *Willd. v.* 2. 730. *Fl. Br.* 483. *Engl. Bot. v.* 17. *t.* 1212. *Hook. Scot.* 139. *Dicks. H. Sicc. fasc.* 1. 9. *Jacq. Austr. t.* 284.

C. n. 859. *Hall. Hist. v.* 1. 381. *t.* 21.

Cherleria. *Hall. Opusc.* 299—301. *t.* 1. *It. Helvet. sect.* 79. *t.* 1. *Segu. Veron. suppl.* 180. *t.* 4. *f.* 3.

Lychnis alpina, muscosis foliis densiùs stipatis, floribus parvis, calyce duriore. *Pluk. Almag.* 233. *Phyt. t.* 42 *f.* 8.

Sedum montanum perpusillum, luteolis floribus. *Park. Theatr.* 737. *f.*

S. montanum perpusillum luteum. *Moris. v.* 3. 471. *sect.* 12. *t.* 6. *f.* 14.

On the loftiest mountains of Scotland, in moist spots near their summits, not unfrequent. *Lightf. Hooker.*

Perennial. *July.*

Roots densely crowded, strong and somewhat woody, bearing close moss-like tufts of leafy *stems*, partly short and erect, partly long and trailing. *Leaves* light green, smooth on both sides, rather fleshy, oblong, bluntish, strongly keeled, minutely fringed, or toothed, at the edges, combined at the base. *Stipulas* none. *Fl.* yellowish green, solitary, erect, stalked, terminating the short upright stems, each *flower-stalk* having, about the middle, a pair of small blunt *bracteas*. Five of the *anthers* are said to be sometimes imperfect.—The generic name, given by Haller, commemorates J. H. Cherler, the coadjutor of John Bauhin in his general History of Plants.

DECANDRIA PENTAGYNIA.

238. COTYLEDON. Navelwort.

Linn. Gen. 229. *Juss.* 307. *Fl. Br.* 484. *Tourn. t.* 19. *Lam. t.* 389.

Nat. Ord. *Succulentæ.* Linn. 13. *Sempervivæ.* Juss. 83. *N.* 239 the same.

Cal. inferior, of 1 leaf, small, in 5 acute segments. *Cor.* of 1 petal, bell-shaped, 5-cleft. *Nect.* a concave scale, at the base of each germen, on the outer side. *Filam.* awl-shaped, straight, borne by the corolla, scarcely so long as the limb. *Anth.* roundish, 2-lobed. *Germ.* 5, oblong, rather tumid, each terminating in an awl-shaped *style*, shorter than the corolla. *Stigmas* simple. *Caps.* 5, oblong,

tumid, pointed, each of 1 valve, bursting along the inner margin. *Seeds* numerous, small.

Succulent herbs or shrubs, with very thick, juicy, alternate, simple, entire or jagged *leaves*. *Fl.* spiked or panicled, yellow, whitish, or red.

1. C. *Umbilicus*. Common Navelwort.

Leaves peltate, notched. Flowers clustered, drooping. Bracteas entire. Root tuberous.

C. Umbilicus. *Huds.* 194. *Willd. Sp. Pl. v.* 2. 757. *Fl. Br.* 484. *Engl. Bot. v.* 5. *t.* 325. *Hook. Scot.* 139.
C. Umbilicus β. *Linn. Sp. Pl.* 615.
C. Umbilicus Veneris. *Clus. Hist. v.* 2. 63. *f.*
C. vera, radice tuberosâ. *Bauh. Hist. v.* 3. *p.* 2. 683. *f.* 684. *Raii Syn.* 271.
C. major. *Bauh. Pin.* 285.
C. minus montanum, sedi folio. *Lob. Ic.* 386. *f.*
Umbilicus Veneris. *Matth. Valgr. v.* 2. 466. *f.* *Camer. Epit.* 858. *f.* *Ger. Em.* 528. *f.* *Dalech. Hist.* 1608. *f.*

On moist dripping rocks, and old walls, in mountainous countries. Perennial. *June, July.*

Root a roundish knob, with several woolly fibres. *Herb* smooth. *Stem* a span high, purplish, simple or branched; leafy in the lower part. *Leaves* scattered, on longish stalks, orbicular, peltate, concave, unequally notched or lobed, smooth, very succulent and brittle; the upper ones less peltate, and more deeply cut. *Clusters* of several pale yellow, cylindrical, crowded, drooping, inodorous *flowers*, with small solitary *bracteas*. *Nect.* red. *Stam.* short, in 2 rows, in the mouth of the flower.

The leaves, applied externally, may, like Houseleek, have a cooling quality, as old herbalists record. Gerarde justly observes that the hot acrid *Hydrocotyle* was very unluckily used by some instead of the *Cotyledon*.

2. C. *lutea*. Greater Yellow Navelwort.

Leaves deeply toothed; the lowermost slightly peltate. Flowers erect. Root creeping.

C. lutea. *Huds.* 194. *Willd. Sp. Pl. v.* 2. 757. *Fl. Br.* 484. *Engl. Bot. v.* 22. *t.* 1522.
C. Umbilicus α. *Linn. Sp. Pl.* 615.
C. flore luteo, radice tuberosâ repente. *Dodart. Mem.* 73. *f.* *Amst. ed.* 575. *t.* 10.
C. radice tuberosâ longâ repente. *Raii Hist.* 1878.
Sedum luteum umbilicatum spicatum, radice repente majus. *Moris. v.* 3. 471.

On moist rocks and old walls, very rare.

In the West Riding of Yorkshire. *Mr. Tofield.* Seen by Mr. Hudson, in the garden of a Mr. Clement, who received it from Somersetshire. Roots, given by Mr. Hudson to the Chelsea garden, have long flourished there, and from thence the figure in *Engl. Bot.* was drawn.

Perennial. *July.*

Root fleshy and creeping. *Herb* smooth, taller than the foregoing, a foot or more in height. *Lower leaves* only very slightly peltate; the rest kidney-shaped, obovate, or ovate, strongly crenate or toothed; the uppermost gradually diminishing to ovate, toothed *bracteas,* on short stalks, solitary under each flower. *Fl.* numerous, twice the size of the last, erect, of a full yellow, in a leafy, simple or branched, *spike,* rather than *cluster,* the partial stalks being very short, or scarcely any. *Cor.* divided half way down, its segments bearing the 5 smaller *stamens.* *Cal.* separated almost to the base.

Linnæus confused himself among the synonyms of old writers, and was led to make this the type of his *C. Umbilicus.* It appears however to be specifically distinct, and not to have been figured by any botanist before Dodart.

239. SEDUM. Orpine and Stonecrop.

Linn. Gen. 230. *Juss.* 307. *Fl. Br.* 485. *Tourn. t.* 140. A, B, G, H, K, M. *Lam. t.* 390. *Gærtn. t.* 65.

Nat. Ord. see *n.* 238.

Cal. inferior, of 1 leaf, in 5 deep, acute, upright, permanent segments. *Pet.* 5, lanceolate, pointed, flat, spreading. *Nect.* a minute notched scale, at the base of each germen, on the outer side. *Filam.* awl-shaped, spreading, not longer than the petals. *Anth.* roundish. *Germ.* 5, oblong, each tapering into a short spreading *style.* *Stigmas* bluntish. *Caps.* 5, compressed, pointed, spreading, notched towards the base, bursting along the inner margin. *Seeds* numerous, minute, arranged along the inner margin, at each side.

Herbs with alternate, very succulent, either flat, cylindrical, or tumid, *leaves.* *Root* mostly perennial. *Fl.* yellow, white or reddish, usually cymose, rarely axillary.

* *Leaves flat.*

1. S. *Telephium.* Orpine, or Live-long.

Leaves flattish, serrated. Corymb leafy. Stem erect.

S. Telephium. *Linn. Sp. Pl.* 616. *Willd. v.* 2. 760. *Fl. Br.* 485.

Engl. Bot. v. 19. *t.* 1319. *Curt. Lond. fasc.* 3. *t.* 25. *Hook. Scot.* 139. *Fl. Dan. t.* 686. *Bull. Fr. t.* 249.
S. n. 954. *Hall. Hist. v.* 1. 411.
Anacampseros, vulgò Faba crassa. *Bauh. Hist. v.* 3. *p.* 2. 681. *f. Raii Syn.* 269.
Telephium vulgare. *Bauh. Pin.* 287. *Clus. Hist. v.* 2. 66. *f.*
T. album. *Fuchs. Hist.* 800. *f.*; *and* purpurascens. *Ibid.* 801. *f.*
Telephium. *Camer. Epit.* 412. *f.*
Fabaria. *Matth. Valgr. v.* 1. 583 *f.*
Crassula sive Faba inversa. *Ger. Em.* 518. *f.*
Scrophularia media. *Brunf. Herb.* 215. *f.* 214.

In the borders of fields, hedges, and bushy places, on a gravelly or chalky soil.
Perennial. *August.*
Root of several oblong, tapering, white knobs. *Herb* smooth. *Stems* 2 feet high, erect, simple, leafy, round, spotted with red. *Leaves* scattered, sessile, ovate, spreading, fleshy, more or less bluntly toothed or serrated, with a stout mid-rib. *Fl.* crimson, rarely white, in dense, corymbose, terminal or partly axillary, tufts, interspersed with fleshy toothed *bracteas.*
Haller's n. 955 was thought by Mr. Davall to be the same species with this; and the *Telephium hispanicum* of Clusius, quoted for it, is esteemed, by most authors, a variety of our common kind. We have however nothing in Britain exactly answering to the figure of Clusius, *Hisp.* 331; repeated in his *Historia, v.* 2. 66. *f.* 1; and in *Ger. Em.* 518. *f.* 1; copied in Bauhin's *Hist. v.* 3. *p.* 2. 682, *Anacampseros maxima.* The *flowers* are said to be pale yellow.

** *Leaves tumid, or somewhat cylindrical.*

2. S. *dasyphyllum.* Thick-leaved White Stonecrop.

Leaves ovate, obtuse, fleshy, sessile; the lower ones opposite. Stems flaccid. Panicles glutinous.

S. dasyphyllum. *Linn. Sp. Pl.* 618. *Willd. v.* 2. 763. *Fl. Br.* 486. *Engl. Bot. v.* 10. *t.* 656. *Curt. Lond. fasc.* 3. *t.* 26. *Hook. Scot.* 140. *Jacq. H. Vind. v.* 2. *t.* 153. *Bull. Fr. t.* 11.
S. n. 961. *Hall. Hist. v.* 1. 413.
S. minus, folio circinato. *Bauh. Pin.* 283. *Dill. in Raii Syn.* 271. *Moris. v.* 3. 473. *sect.* 12. *t.* 7. *f.* 35.
S. parvum, folio circinato, flore albo. *Bauh. Hist. v.* 3. *p.* 2. 691. *f.*
S. minimum frigidum. *Clus. Hisp.* 122.
Aizoon dasyphyllum. *Dalech. Hist.* 1133. *f.*

On walls and rocks.
Plentiful about London, at Hammersmith, Kew, Chelsea, &c. On walls at Malton, Yorkshire. *Rev. Archdeacon Pierson.* At Clifton, near Bristol. *Mr. Dyer.*

Perennial. *June.*

Root fibrous, small. *Herb* glaucous, smooth. *Stems* weak and recumbent, 3 or 4 inches high, throwing out radicles from the lower part. *Leaves* very thick and juicy, the size of a grain of wheat, tinged frequently with red, sessile, not spurred at the base; lower ones crowded and opposite; upper scattered. *Panicles* simple, terminal, with downy viscid stalks, no *bracteas*. *Cal.* small, downy and viscid. *Pet.* white, with a red central line. *Nect.* minute, greenish, as well as the *germens*. *Anth.* red. The *germens* and *capsules*, in a garden at least, are often more than 5; the *flowers* at the same time having 6 *petals* and 12 *stamens*. The plant has not much of an acrid flavour. It is impatient of wet, and of manure, but increases plentifully by seed, among stones and rock-work.

3. S. *anglicum*. White English Stonecrop.

Leaves ovate, thick, mostly alternate; spurred at the base. Cyme of two smooth branches.

S. anglicum. *Huds.* 196. *With.* 428. *Willd. Sp. Pl. v.* 2. 768. *Fl. Br.* 486. *Engl. Bot. v.* 3. *t.* 171. *Hook. Scot.* 140.

S. annuum. *Huds. ed.* 1. 172.

S. rubens. *Lightf.* 235.

S. minimum non acre, flore albo. *Raii Syn.* 270. *t.* 12. *f.* 2. *Fl. Dan. t.* 82.

Mild White Stonecrop. *Pet. H. Brit. t.* 42. *f.* 10.

On the sandy or rocky sea coast, as well as on mountains.

Upon barren ground in Suffolk, between Yarmouth and Dunwich, plentifully; as well as on the rocks of Lancashire and Westmoreland. *Ray.* On roofs and walls, in the mountainous parts of Wales especially. *Dr. Richardson.* On the sea shore near Brakelsham abundantly. *Dillenius.* In Devonshire and Cornwall, as well as in Scotland, frequent.

Annual. *July.*

Root fibrous. *Stems* forming small tufts, 2 or 3 inches high, decumbent at the base, round, smooth, leafy, reddish. *Leaves* crowded, generally alternate, fleshy, smooth, ovate, bluntish, less glaucous, and somewhat less tumid, than in the last, but more essentially distinguished by being elongated at the base, below their attachment to the stem, into a short spur. *Fl.* white, speckled with red, with a red rib to each *petal*; at first crowded; but afterwards racemose, each *cyme* having two branches, with an intermediate flower. *Stalks* and *calyx* smooth. *Capsules* membranous. This species, though long unsettled, is found in most parts of Europe, from Sweden to Portugal.

4. S. *acre*. Biting Stonecrop. Wall Pepper.

Leaves alternate, nearly ovate, thick, tumid; spurred at the base. Cyme of three smooth branches, leafy.

S. acre. *Linn. Sp. Pl.* 619. *Willd. v.* 2. 767. *Fl. Br.* 487. *Engl. Bot. v.* 12. *t.* 839. *Curt. Lond. fasc.* 1. *t.* 32. *Woodv. suppl. t.* 231. *Hook. Scot.* 140. *Bull. Fr. t.* 31. *Ehrh. Pl. Off.* 86.
S. n. 966. *Hall. Hist. v.* 1. 415.
S. parvum acre, flore luteo. *Bauh. Hist. v.* 3. *p.* 2. 694. *f. Raii Syn.* 270. *Moris. v.* 3. 471. *sect.* 12. *t.* 6. *f.* 12.
S. minus octavum causticum. *Clus. Hist. v.* 2. 61. *f.*
Sedi tertium genus. *Fuchs. Hist.* 36. *f.*
Sempervivum minus vermiculatum. *Bauh. Pin.* 283.
S. minimum. *Camer. Epit.* 856. *f. good.*
Vermicularis, sive Illecebra minor acris. *Ger. Em.* 517. *f.*

On walls, roofs, and dry sandy ground, common.
Perennial. *June.*
Root fibrous, subdivided. *Herb* smooth, succulent and tender, of a grass green, very hot and pungent to the taste, composing lax wide-spreading tufts. *Stems* intricate, branched; the *branches* leafy, erect, round, 2 or 3 inches high. *Leaves* imbricated on the barren branches; scattered on the flowering ones; obtuse, convex at the back, flattened above, spurred at the base as in the last. *Fl.* of a golden yellow, more or less numerous, in three-branched leafy, or bracteated, *cymes*. *Caps.* membranous.
Reported to be useful in scorbutic and scrofulous disorders. See Woodville.

5. S. *sexangulare*. Insipid Yellow Stonecrop.

Leaves in six or seven rows, nearly cylindrical, obtuse, fleshy, spreading; spurred at the base. Cyme of three smooth branches, leafy.

S. sexangulare. *Linn. Sp. Pl.* 620. *Willd. v.* 2. 767. *Fl. Br.* 488. *Engl. Bot. v.* 28. *t.* 1946. *Curt. Lond. fasc.* 4. *t.* 33. *Ehrh. Herb.* 16.
S. acre β. *Huds.* 196.
S. n. 965. *Hall. Hist. v.* 1. 415.
Sempervivum minus vermiculatum insipidum. *Bauh. Pin.* 284.
S. minimum. *Matth. Valgr. v.* 2. 463. *f. Lob. Ic.* 379. *f.* ?
S. minimum luteum non acre. *Bauh. Hist. v.* 3. *p.* 2. 695.
Aizoon minimum. *Cord. Hist.* 98.
A. minimum repens, tertium Dioscoridis. *Dalech. Hist.* 1130. *f.*

On dry sandy ground, and old walls, not common.
Near Northfleet, Sheerness, and in the Isle of Shepey. *Huds.* On Greenwich park wall, on the south side, near the western corner. *Curtis.* Cambridgeshire. *Relhan.* On the famous rotten walls of Old Sarum. *Mr. D. Turner.*
Perennial. *July.*
Rather larger than the last, with which it nearly agrees in *flowers* and *inflorescence*; but differs evidently and most essentially in foliage. The *leaves* are indeed of the same grass-green hue;

but they are slender and cylindrical, disposed 3 or 4 together in alternate whorls, spreading, so as to form 6 or 7 rows, or angles, on each branch. They are a little acid or astringent, but have no acrimony. The old authors confounded these two species, and even Mr. Hudson, in his second edition, made this a variety of the *acre*. Matthiolus and Dalechamp give excellent figures, which have hitherto escaped observation. The cut of Camerarius, quoted above under *S. acre*, admirably expresses that plant, though Linnæus took it for the *sexangulare*.

6. S. *villosum*. Hairy Stonecrop.

Leaves alternate, linear, flattened, slightly hairy as well as the flower-stalks. Stem erect.

S. villosum. *Linn. Sp. Pl.* 620. *Willd. v.* 2. 768. *Fl. Br.* 488. *Engl. Bot. v.* 6. *t.* 394. *Hook. Scot.* 140. *Fl. Dan. t.* 24.
S. n. 962. *Hall. Hist. v.* 1. 414.
S. palustre subhirsutum purpureum. *Bauh. Pin.* 285.
S. palustre, flore incarnato. *Besl. Hort. Eyst. æstiv. ord.* 13. *t.* 5. *f.* 2.
S. purpureum pratense. *Bauh. Hist. v.* 3. *p.* 2. 692. *f.* *Raii Syn.* 270.
S. minus tertium, sive palustre. *Clus. Hist. v.* 2. 59. *f.*
S. minus palustre. *Ger. Em.* 516. *f.*
Purple Marsh Sengreen. *Pet. H. Brit. t.* 42. *f.* 7.

In wet mountainous pastures, and the clefts of moist rocks, in the North.
In Westmoreland, Durham, and the north-west part of Yorkshire not unfrequent. More abundant in Scotland.
Perennial. *June, July.*
Root small, fibrous. *Stem* erect, round, leafy, spotted with red, 3 to 6 inches high, with a few leafy branches from the bottom. *Leaves* scattered, flat on the upper side, about half an inch long, often reddish; the upper ones chiefly downy. *Fl.* rose-coloured, or white with a red mid-rib to each petal, corymbose, terminal, on downy viscid stalks. *Cal.* downy. *Caps.* rough, purplish, pointed.

7. S. *album*. White Stonecrop.

Leaves oblong, cylindrical, obtuse, spreading, smooth. Panicle much branched.

S. album. *Linn. Sp. Pl.* 619. *Willd. v.* 2. 766. *Fl. Br.* 489. *Engl. Bot. v.* 22. *t.* 1578. *Curt. Lond. fasc.* 1. *t.* 31. *Hook. Scot.* 140. *Fl. Dan. t.* 66.
S. n. 959. *Hall. Hist. v.* 1. 413.
S. minus teretifolium album. *Bauh. Pin.* 283. *Raii Syn.* 271.
S. minus, folio longiusculo tereti, flore candido. *Bauh. Hist. v.* 3. *p.* 2. 690. *f.*

S. minus primum, et secundum. *Clus. Hist. v.* 2. 59. *f, f.*
S. minus officinarum. *Ger. Em.* 512. *f.*; *also* 513. *f.* 7.
S. minus fœmina. *Fuchs. Hist.* 35. *f.*
Sempervivum minus. *Matth. Valgr. v.* 2. 462. *f.*

On rocks, walls and roofs, not common.

At Kentish-town and Bromley, Middlesex. *Curtis.* On rocks above Great Malvern, Worcestershire; Mr. Nash. *With.* Upon walls at Peterborough. *Mr. Woodward.* Rare in Scotland. *Hooker.*

Perennial. *July.*

Root fibrous, creeping. *Stems* erect, 4 or 5 inches high, round, purplish, leafy. *Leaves* scattered, light green, often reddish, very succulent, barely an inch long, sessile, but slightly attached. *Fl.* numerous, in a smooth compound panicle, white, with a reddish *calyx* and *anthers*.

An elegant plant for rock-work, but it soon passes away unless there be some depth of soil, and a supply of moisture.

8. S. *reflexum*. Crooked Yellow Stonecrop.

Leaves awl-shaped, scattered, spurred at the base; the lowermost recurved. Flowers cymose. Segments of the calyx ovate.

S. reflexum. *Linn. Sp. Pl.* 618. *Willd. v.* 2. 764. *Fl. Br.* 490. *Engl. Bot. v.* 10. *t.* 695. *Hook. Scot.* 141.
S. n. 967. *Hall. Hist. v.* 1. 415.
S. minus luteum ramulis reflexis. *Bauh. Pin.* 283. *Raii Syn.* 270.
S. minus mas. *Fuchs. Hist.* 33. *f.*
S. minus quartum. *Clus. Hist. v.* 2. 60. *f.*
Aizoon scorpioides. *Lob. Ic.* 377. *f.* *Ger. Em.* 513. *f.*
Crooked Yellow Sengreen. *Pet. H. Brit. t.* 42. *f.* 6.

On walls and thatched roofs abundantly.

Perennial. *July.*

Roots fibrous, thrown out here and there from the recumbent, entangled, lower part of the *stems*, which are a foot high, round, leafy, with several short, densely leafy, barren shoots from the bottom. *Leaves* thick, of a dull green, often brownish, scarcely glaucous, tapering to a bristly tip; their base having a short spur below their point of attachment, as in some of the preceding; but that character does not serve for a natural division of the genus. *Fl.* bright yellow, numerous, in a dense, terminal, more or less level-topped *cyme*, whose *branches* and *stalks* are smooth; the outermost frequently recurved. Segments of the *calyx* ovate, bluntly pointed, scarcely half so long as the lanceolate rather obtuse *petals*. The lower *leaves* are often recurved, in consequence of the pendulous posture of the stems or branches, but the specific name seems to have originated from the generally reflexed position of the *flower-stalks*, expressed by the term *scorpioides*. The number of the several parts of the *flower* often

exceeds what is proper to this genus, but hardly approaches its naturally ally *Sempervivum*.

9. S. *glaucum*. Glaucous Yellow Stonecrop.

Leaves glaucous, awl-shaped, scattered; spurred at the base; those of the branches thread-shaped. Flowers cymose. Segments of the calyx lanceolate.

S. glaucum. *Donn Cant. ed.* 5. 112. *Engl. Bot. v.* 35. *t.* 2477. *Comp.* 71.
S. reflexum. *Fl. Dan. t.* 113.
S. reflexum β. *Fl. Br.* 490.
S. minus luteum, folio acuto. *Bauh. Pin.* 283.
S. minus hæmatoides. *Ger. Em.* 512. *f. Raii Syn.* 269. *ed.* 2. 152.
Aizoon hæmatoides. *Lob. Ic.* 378. *f.*
A. minus. *Dalech. Hist.* 1129. *f.*
Common Yellow Sengreen. *Pet. H. Brit. t.* 42. *f.* 5.

On barren sandy ground, or on walls; very common according to Ray.
On the sides of some rough hills, near Mildenhall, Suffolk. *Mr. F. K. Eagle.*
Perennial. *July, August.*
Differs from the last in being of a more glaucous hue, with much more slender *leaves*, especially on the radical shoots. The branches of the *cyme* are more uniformly spreading, and the segments of the *calyx* narrower and more pointed.
It is extremely difficult to adjust the synonyms of old authors, between this and the *reflexum*, because the latter varies in the position of its *flower-stalks*, and it appears that writers who distinguished them as species have not always known what their predecessors intended. The excellent cut of Fuchsius, referred to this by C. Bauhin, surely represents the former. The figures of Clusius, adopted by Lobel and Gerarde, are sufficiently expressive.

10. S. *rupestre*. St. Vincent's Rock Stonecrop.

Leaves glaucous, spurred at the base; those of the branches awl-shaped, erect, in five close rows. Flowers imperfectly cymose. Segments of the calyx elliptical, obtuse.

S. rupestre. *Linn. Sp. Pl.* 618. *Willd. v.* 2. 764. *Fl. Br.* 490. *Engl. Bot. v.* 3. *t.* 170.
S. rupestre repens, foliis compressis. *Dill. Elth.* 343. *t.* 256. *f.* 333.
S. minus, a rupe S. Vincentii. *Raii Syn.* 270. *ed.* 2. 152.

On rocks, but rare.
On St. Vincent's rocks, Bristol. *Mr. Goodyer.* On Chedder rocks, Somersetshire. *Dillenius.* Upon walls about Darlington. *Mr. E. Robson.*

Perennial. *July.*

Rather smaller than the last. Leafy *branches* very numerous, erect, crowded, obtuse, thickly clothed with upright, awl-shaped, shortish, acute, very glaucous *leaves*, imbricated in 5 rows; spurred and unconnected at the base: those on the flowering *stems* scattered, broader and more tumid, often red. The *stem* also is mostly red, especially its lower recumbent part. *Fl.* rather corymbose than cymose. *Cal.* very glaucous, with a tinge of red; its segments short, rounded, obtuse. *Petals* bright yellow, as well as the *stamens* and *pistils*. All the parts of the *flower* are liable to an increase of number, even in wild specimens.

11. S. *Forsterianum*. Welsh Rock Stonecrop.

Leaves spurred at the base, those of the branches semicylindrical, bluntish, pointed, spreading, in many rows. Flowers cymose. Segments of the calyx elliptical, obtuse.

S. Forsterianum. *Engl. Bot. v.* 26. *t.* 1802. *Comp.* 71.

On rocks in Wales.

At the fall of the Rhydoll, near the Devil's bridge, Cardiganshire. *Mr. E. Forster.* On the rocks of Hisväe, overhanging the little valley of Nant-phrancon. *Dr. Richardson and Mr. Llwyd.*

Perennial. *July.*

Very distinct from *S. rupestre*, with which it has been confounded, in the bright-green colour of its foliage, which is even less glaucous than represented in *Engl. Bot.*; but the short rosaceous tufts of spreading *leaves*, which are blunt, with a small bristly point, more essentially distinguish it. The *flowers* grow in a true *cyme*, all the primary stalks springing from one point. The *calyx* in this and the last has more shallow, short, elliptical and obtuse segments, than in either of the two preceding. Each *leaf* of *S. Forsterianum* has a dark spot, or pore, at the back, just below the point, as in the uncoloured separate figure of *Engl. Bot.* But of this there are also traces, even in dried specimens of *S. rupestre*. Mr. Griffith and Mr. Forster are of opinion that the present is the only one, of these two species, ever found in Wales.

240. OXALIS. Wood-sorrel.

Linn. Gen. 231. *Juss.* 270. *Fl. Br.* 491. *Lam. t.* 391. *Gærtn. t.* 113. Oxys. *Tourn. t.* 19.

Nat. Ord. *Gruinales.* Linn. 14. Akin to *Gerania.* Juss. 73. Rather to the true *Rutaceæ.* Juss. 81. sect. 2.

Cal. inferior, in 5 deep, acute, permanent segments. *Pet.* 5, much longer than the calyx, erect, obtuse, rather oblique,

connected laterally by their claws; spiral in the bud. *Filam.* capillary, sometimes combined, erect, the 5 outermost shortest, and often protuberant at the back or summit. *Anth.* roundish, furrowed, incumbent. *Germ.* superior, oblong or roundish, with 5 angles. *Styles* 5, thread-shaped, either longer or shorter than the longest stamens. *Stigmas* obtuse, downy. *Caps.* with 5 angles, and 5 cells, membranous, bursting lengthwise at the angles. *Seeds* roundish, polished, each seated on an elastic *tunic*, in some species solitary, in others several in each cell.

Herbaceous, acid. *Root* scaly, or bulbous. *Leaves* compound, mostly ternate. *Fl.* purplish, white, or yellow, inodorous.

1. O. *Acetosella.* Common Wood-sorrel.

Stalks radical, single-flowered. Leaves ternate, inversely heart-shaped, hairy. Root of many scaly joints. Stamens all simple.

O. Acetosella. *Linn. Sp. Pl.* 620. *Willd. v.* 2. 780. *Fl. Br.* 491. *Engl. Bot. v.* 11. *t.* 762. *Curt. Lond. fasc.* 2. *t.* 31. *Woodv. Med. Bot. t.* 20. *Hook. Scot.* 141. *Fl. Dan. t.* 980. *Jacq. Oxal.* 114. *t.* 80. *f.* 1. *Ehrh. Pl. Off.* 154.

Oxys n. 928. *Hall. Hist. v.* 1. 402.

O. alba. *Raii Syn.* *281. *Ger. Em.* 1201. *f. Merr. Pin.* 90.

Trifolium acetosum. *Dod. Frument.* 214. *f. Pempt.* 578. *f. Matth. Valgr. v.* 1. 191. *f. Camer. Epit.* 584. *f.* 2. *Dalech. Hist.* 1355. *f.*

T. acetosum vulgare. *Bauh. Pin.* 330.

β. T. acetosum vulgare, flore purpureo. *Dill. in Raii Syn.* *281.

In groves and shady places abundantly.

Perennial. *April, May.*

Root of several parcels of fleshy reddish scales, connected by a thread. *Stem* none. *Leaflets* of a delicate bright green, often purplish at the back, drooping at night, on long, hairy, radical, purplish *foot-stalks*. *Flower-stalks* taller than the footstalks, like them hairy, purplish, more or less curved or wavy. *Bracteas* 2, opposite, considerably below the top of each stalk. *Fl.* solitary, drooping, bell-shaped, either white or purplish, always streaked with fine branching purple veins; the *petals* adhering together by a little glandular swelling, at each side of their short yellow claws. *Stam.* all capillary, as are the *styles* likewise. When ripe, the blackish shining *seeds* are projected to a distance, on the slightest touch or motion, by their elastic *tunics*, which remain, contracted and wrinkled, in the *capsule*.

This herb is powerfully and most agreeably acid, making a refreshing and wholesome conserve with fine sugar; its flavour resembling green tea. Few of our wild flowers are more elegant. In

the south of Italy, the Wood-sorrel is said to be called *Juliola*, barbarously corrupted, as Bauhin observes, into *Alleluja*; whence also came its medical name *Lujula*.

2. O. *corniculata*. Yellow Procumbent Wood-sorrel.

Stem branched, procumbent. Flower-stalks in small umbels. Stipulas united to the base of the footstalks.

O. corniculata. *Linn. Sp. Pl.* 623. *Willd. v.* 2. 800. *Berkenh. Outl. v.* 2. 127. *Syn. v.* 2. 141. *Fl. Br.* 492. *Engl. Bot. v.* 24. *t.* 1726. *Hook. Scot.* 141. *Hopk. Glott.* 60. *Jacq. Oxal.* 30. *t.* 5. *Ehrh. Herb.* 136.
O. pusilla. *Salisb. Tr. of L. Soc. v.* 2. 243. *t.* 23. *f.* 5.
Oxys n. 929. *Hall. Hist. v.* 1. 402.
O. lutea. *Ger. Em.* 1202. *f.* *Bauh. Hist. v.* 2. 388. *f.*
O. lutea corniculata. *Dalech. Hist.* 1355. *f.*
O. flavo flore. *Clus. Hist. v.* 2. 249. *f.*
Trifolium acetosum. *Camer. Epit.* 584. *f.* 1.
T. acetosum corniculatum. *Bauh. Pin.* 330.

In shady, rather moist, waste ground.
About Exeter; Mr. J. Turner. *Berkenhout.* Abundant in several parts of Devonshire. *Engl. Bot.* Near Cuckfield, Sussex; Mr. Fearon. *Mrs. Charlotte Smith.* Not far from Stirling. *Dr. Hamilton, late Buchanan.* On a wall between the Avon and Barncluith. *Mr. Hopkirk.*
Annual. *May—October.*
Root fibrous. *Stems* several, spreading widely on the ground, and often taking root, round, reddish, downy, leafy. *Leaves* alternate, or occasionally opposite, on long spreading *footstalks*; *leaflets* inversely heart-shaped, downy, acid like the former. *Stipulas* lanceolate, attached in pairs to the base of each *footstalk*; by the want of which in *O. stricta* Mr. Salisbury has well distinguished the latter, now become almost a weed in gardens, though reported to be of American origin. The *flowers* of *O. corniculata*, which owes its name to the oblong *capsule*, contrasted with *O. Acetosella*, grow scarcely more than 2 together, on axillary stalks. The *petals* are yellow, strongly combined. *Stam.* in like manner monadelphous. *Seeds* numerous in each cell.

241. AGROSTEMMA. Cockle.

Linn. Gen. 231. *Juss.* 302. *Fl. Br.* 492. *Gærtn. t.* 130.

Nat. Ord. *Caryophylleæ.* Linn. 22. Juss. 82. See *n.* 232—237, and *n.* 242—244.

Cal. inferior, of 1 leaf, tubular, coriaceous, strongly ribbed, 5-toothed, permanent. *Pet.* 5; their claws as long as the tube of the calyx; border spreading, obtuse. *Filam.* awl-

shaped; 5 shorter than the rest, attached to the claws of the petals. *Anth.* oblong, notched at each end. *Germ.* superior, ovate. *Styles* thread-shaped, erect, the length of the stamens. *Stigmas* slender, downy. *Caps.* oblong-ovate, of 1 cell, and 5 rigid valves, more or less combined below, inclosed in the hardened calyx. *Seeds* numerous, kidney-shaped, granulated, stalked, attached to the unconnected central column.

Herbs with an upright *stem;* simple, entire, narrow, opposite, mostly downy, *leaves;* and several upright, stalked, solitary, purple or rose-coloured, handsome *flowers*, in most species, but not in ours, crowned with rigid sharp teeth at the mouth.

1. A. *Githago.* Corn Cockle.

Hairy. Calyx-teeth rising above the corolla. Petals undivided, without teeth.

A. Githago. *Linn. Sp. Pl.* 624. *Willd. v.* 2. 805. *Fl. Br.* 493. *Engl. Bot. v.* 11. *t.* 741. *Curt. Lond. fasc.* 3. *t.* 27. *Mart. Rust. t.* 105. *Hook. Scot.* 141. *Fl. Dan. t.* 576. *Dreves Bilderb. t.* 22.

Lychnis n. 926. *Hall. Hist. v.* 1. 401.

L. segetum major. *Bauh. Pin.* 204. *Raii Syn.* 338.

Pseudomelanthium. *Matth. Valgr. v.* 2. 154. *f. Camer. Epit.* 554. *f. Bauh. Hist. v.* 3. *p.* 2. 341. *f. Dalech. Hist.* 438. *f. Ger. Em.* 1087. *f.*

Nigella. *Brunf. Herb.* 242. *f.* 241.

Nigellastrum. *Dod. Coronar.* 49. *f. Pempt.* 173. *f.*

Githago, seu Lolium. *Trag. Hist.* 127. *f.*

Lolium. *Fuchs. Hist.* 127. *f.*

In corn-fields, a troublesome weed.

Annual. *June, July.*

Root tapering. *Herb* clothed with upright hoary hairs. *Stem* round, branched, leafy, about a yard high. *Leaves* sessile, joined at the base, linear-lanceolate. *Fl.* on upright stalks, purple, with blueish streaks, large and very handsome, however odious in the sight of the farmer among his ripening corn. *Cal.* very hairy, with long, narrow, smoother teeth, upright before and after flowering. This genus has been, by many botanists, united with *Lychnis;* from which it is distinguished chiefly by the very hard and tough *calyx,* and undivided *petals,* whose teeth moreover, when present, are peculiarly horny and sharp, unlike those of any other plants of this natural order; but they are wanting in our only British species.

This weed should be eradicated by hand before flowering.

242. LYCHNIS. Lychnis, or Campion.

Linn. Gen. 231. *Juss.* 302. *Fl. Br.* 493. *Tourn. t.* 175. *f. C—E, I—M. Lam. t.* 391. *Gærtn. t.* 130.

Nat. Ord. see *n.* 241.

Cal. inferior, of 1 leaf, oblong, membranous, ribbed, 5-toothed, permanent. *Pet.* 5; their claws flat, thin-edged, as long as the tube of the calyx, mostly crowned; border flat, spreading, mostly divided. *Filam.* longer than the calyx; 5 alternate ones later than the rest, attached to the claws of the petals. *Anth.* oblong, incumbent. *Germ.* superior, nearly ovate. *Styles* 5, occasionally 3 or 4, awl-shaped, longer than the stamens. *Stigmas* reflexed, downy. *Caps.* more or less perfectly ovate, of 1, 3, or 5 cells, opening 5 or 10 recurved teeth. *Seeds* numerous, roundish, roughish, attached to the unconnected central column.

Herbs, various in habit, mostly perennial; either smooth, viscid, or downy. *Stem* erect. *Leaves* opposite, simple, undivided, entire. *Fl.* solitary or aggregate, terminal, erect, red or white. *Pet.* in *L. Viscaria* scarcely divided; in the Lapland *L. apetala* abortive. *Stam.* and *pist.* separated for the most part in *L. dioica.*

1. L. *Flos Cuculi.* Meadow Lychnis. Ragged Robin.

Petals in four linear segments. Capsule roundish, of one cell. Stem rough with deflexed bristles.

L. Flos Cuculi. *Linn. Sp. Pl.* 625. *Willd. v.* 2. 807. *Fl. Br.* 493. *Engl. Bot. v.* 8, *t.* 573. *Curt. Lond. fasc.* 1. *t.* 33. *Hook. Scot.* 141. *Fl. Dan. t.* 590.

L. n. 921. *Hall. Hist. v.* 1. 399.

L. plumaria sylvestris simplex. *Park. Parad.* 253. *Raii Syn.* 338.

Cuculi flos. *Trag. Hist.* 403. *f.*

Armoraria pratensis mas. *Ger. Em.* 600. *f.*

A. pratensis sylvestris. Flos cuculi. *Lob. Ic.* 451. *f.*

Armerius sylvestris. *Dod. Pempt.* 177. *f.*

Armeria secunda, sive sylvestris, Dodonæi. *Dalech. Hist.* 809. *f.*

Odontitis Plinii, simplici flore. *Clus. Hist. v.* 1. 292. *f.*

In moist meadows frequent.

Perennial. *June.*

Root tapering. *Stem* erect, from 1 to 2 feet high, quadrangular, leafy, rough with small, bristly, closely deflexed, hairs; often sending forth leafy branches from the bottom; the upper part viscid and brownish. *Leaves* lanceolate, nearly smooth, various in width, combined, the lower ones tapering into *footstalks.* *Panicle* terminal, forked, erect, viscid, with a pair of broad,

membranous, pointed *bracteas* at each subdivision. *Fl.* inodorous, rose-coloured, rarely white. *Petals* flaccid, quivering in the slightest breeze, deeply four-cleft, with a lateral pair of sharp, red, upright, lobes, or teeth, at the upper part of the claw. *Caps.* roundish-ovate, of 1 cell, with 5 marginal teeth.

A double variety, of more humble stature, is sometimes seen in gardens; but seldom lasts long, for want of its natural supply of moisture.

2. L. *Viscaria.* Red German Catchfly. Rock Lychnis.

Viscid. Petals slightly cloven. Capsule stalked, of five cells. Leaves fringed at the base.

L. Viscaria. *Linn. Sp. Pl.* 625. *Willd. v.* 2. 808. *Fl. Br.* 494. *Engl. Bot. v.* 11. *t.* 788. *Hook. Scot.* 142. *Fl. Dan. t.* 1032.
L. n. 927. *Hall. Hist. v.* 1. 401.
L. sylvestris viscosa rubra angustifolia. *Bauh. Pin.* 205. *Raii Syn.* 340.
L. sylvestris prima. *Clus. Pann.* 328. *f.* 329.
L. sylvestris quarta. *Clus. Hist. v.* 1. 289. *f.*
Muscipula angustifolia. *Ger. Em.* 601. *f.*
Odontidi, sive Flori Cuculi, affinis Lychnis sylvestris. *Bauh. Hist. v.* 3. *p.* 2. 348. *f.* good.

In dry fissures of rocks, but rare.

On rocks in Edinburgh park; T. Willisell; and on the sides of Craig Wreidhin (rather Breiddin), Montgomeryshire; Mr. Llwyd. *Ray.* On rocks by the Hermitage, a mile south of Edinburgh, in tolerable plenty; 1782. This is the place called Blackford hill by Professor Hooker, who mentions several other situations in Scotland, where the species in question grows wild.

Perennial. *May, June.*

Roots tufted, rather woody. *Stems* a foot high, bluntly quadrangular, leafy, smooth, except a great degree of brown viscidity about the upper part, under each pair of leaves, and on the *flower-stalks.* *Leaves* linear-lanceolate, dark green, smooth, with a slight woolly fringe at the base. *Panicle* spiked; corymbose at the top; lower branches forked. *Fl.* crowded, scentless. *Cal.* nearly smooth, membranous, purplish. *Pet.* rose-coloured, veiny, very slightly cloven, or inversely heart-shaped, with a divided acute scale at the top of the claw. *Caps.* ovate, short, elevated within the calyx on a stout angular stalk, half its own length, and opening with 5 revolute, cloven teeth, or valves, with membranous central partitions. *Seeds* kidney-shaped, black, rough.

A white-flowered variety has been sometimes found; a double one is common in rustic gardens.

3. L. *alpina*. Red Alpine Campion.

Smooth. Petals cloven. Flowers densely corymbose. Capsule stalked, of five cells. Leaves linear-lanceolate, naked at the base.

L. alpina. *Linn. Sp. Pl.* 626. *Lapland Tour, v.* 2. 19. *Willd. v.* 2. 809. *Sm. Tr. of L. Soc. v.* 10. 342. *Engl. Bot. v.* 32. *t.* 2254. *Comp.* 71. *Hook. Scot.* 142. *Curt. Mag. t.* 394. *Fl. Dan. t.* 65.
L. n. 922. *Hall. Hist. v.* 1. 400. *t.* 17.
Silene n. 185. *Linn. Fl. Lapp. ed.* 1. 146. *ed.* 2. 152.

On rocks in the Highlands of Scotland.
Near the summits of the Clova mountains, Angusshire. *Mr. G. Don.* 1795.
Perennial. *June, July.*
Half the size of the last; the herbage of a paler hue, and quite destitute of viscidity. *Leaves* not fringed at the base. *Fl.* crowded into a dense roundish tuft, bright rose-coloured. Border of each *petal* cloven half way down, with 2 small protuberances, as Haller says, rather than teeth, at the base. The *capsule* is stalked, and I have certainly found 5 cells, with membranous partitions, as in *L. Viscaria;* though in the *Fl. Scot.* it is otherwise described. The *styles* are naturally 5, as recorded by Linnæus in his Lapland Tour; though I find one flower on his own specimen with 3, agreeing with *Fl. Lapp.* There may, doubtless, sometimes be 4, as mentioned in Willdenow, after *Syst. Veg. ed.* 13 and 14.

4. L. *dioica*. Red or White Campion.

Flowers dicœcious. Petals cloven, crowned with four teeth. Capsule of one cell.

L. dioica. *Linn. Sp. Pl.* 626. *Willd. v.* 2. 810. *Fl. Br.* 495. *Hook. Scot.* 142.
L. n. 923. *Hall. Hist. v.* 1. 400.
L. sylvestris. *Dod. Pempt.* 171. *f. Coronar.* 47. *f.*
Ocimastrum, sive Ocymoides. *Matth. Valgr. v.* 2. 346. *f. Camer. Epit.* 739. *f.*

α. Flowers red.
Lychnis dioica. *Engl. Bot. v.* 22. *t.* 1579. *Curt. Lond. fasc.* 2. *t.* 32. *Hull* 100.
L. diurna. *Sibth.* 145. *Sym. Syn.* 112.
L. sylvestris rubello flore. *Ger. Em.* 469. *f. Raii Syn.* 339. *Lob. Ic.* 335. *f.*
L. sylvestris, sive aquatica, purpurea simplex. *Bauh. Pin.* 204.

β. Flowers white.
L. dioica. *Engl. Bot. v.* 22. *t.* 1580. *Fl. Dan. t.* 792.
L. vespertina. *Sibth.* 146. *Sym. Syn.* 112. *Hull* 100.
L. sylvestris albo flore. *Ger. Em.* 468. *Raii Syn.* 339.
L. sylvestris alba simplex. *Bauh. Pin.* 204.

Ocymoides album multis. *Bauh. Hist. v.* 3. *p.* 2. 342. *f.*

γ. Flowers flesh-coloured, often with *stam.* and *pist.* together.

α. In moist shady places, and under hedges, frequent.

β. In hedges and cultivated fields, no less common.

γ. In hedges and fields, but rarely.

Perennial. α, *May, June.* β, γ, *June—Sept.*

Root tapering, rather fleshy. *Herb* green, clothed with projecting soft hairs, a little viscid. *Stem* upright, weak, round, leafy, 18 to 24 inches high; in β and γ $2\frac{1}{2}$ or 3 feet. *Leaves* ovate, acute, soft, rather wavy; the lower ones stalked; upper narrower and often lanceolate. *Panicle* terminal, leafy, many-flowered, partly forked. *Cal.* tubular, dark red, or purplish, with 10 ribs, and frequently, in the fertile plants, intermediate veins. *Pet.* each with a broad claw, dilated upwards, crowned with 2 acute marginal teeth, and 2, more blunt, combined, central ones. *Stam.* capillary. *Germ.* sessile, ovate, in the flowers of a separate plant. *Styles* 5, with long, twisted, downy *stigmas*. *Caps.* ovate, of 1 cell.

The *corolla* in α is of a fine rose-colour; in β white, sweet-scented in an evening; in γ blush-coloured, but turns white on the same plant when transplanted. The *stam.* and *pist.* are not always united in this blush-coloured variety, nor separated in the white one. No solid permanent sign of specific distinction has occurred to me, between α and β, though I have much wished to find one. The red variety especially is often cultivated in a double state, and called Bachelor's Buttons. Its flowers are rarely found united.

243. CERASTIUM. Mouse-ear Chickweed.

Linn. Gen. 232. *Juss.* 301. *Fl. Br.* 496. *Lam. t.* 392. *Gærtn. t.* 130. Myosotis. *Tourn. t.* 126. *Hall. Hist. v.* 1. 388.

Nat. Ord. see *n.* 241.

Cal. inferior, of 5 ovate-lanceolate, acute, spreading, permanent leaves, membranous at the edges. *Pet.* 5, divided, obtuse, spreading, about the length of the calyx, with broad, very short, claws. *Filam.* thread-shaped, 10, 5, or 4, shorter than the corolla; alternate ones shortest. *Anth.* roundish, 2-lobed. *Germ.* ovate, superior, sessile. *Styles* 5, rarely but 4, short. *Stigm.* bluntish, downy. *Caps.* membranous, cylindrical or ovate, of 1 cell, opening with twice as many upright teeth as there are *styles*. *Seeds* numerous, roundish, rough.

Herbs, annual or perennial; hairy, smooth, or cottony. *Leaves* ovate or elliptical, rarely lanceolate, always entire,

combined at the base, sessile. *Fl.* white. Most akin to *Stellaria* and *Arenaria.*

1. C. *vulgatum.* Broad-leaved Mouse-ear Chickweed.

Hairy, viscid, tufted. Leaves ovate. Petals as long as the calyx. Flowers longer than their stalks.

C. vulgatum. *Linn. Syst. Nat. ed.* 10. *v.* 2. 1039, A. *Herb. Linn.* A. *Fl. Suec. ed.* 2. 158. *Sp. Pl.* 627. *Fl. Br.* 496. *Engl. Bot. v.* 11. *t.* 789. *Lightf.* 240. *Hook. Scot.* 142.

C. viscosum. *Huds.* 200. *With.* 433. *Hull* 101. *Relh.* 178. *Sibth.* 147. *Abbot* 101. *Curt. Lond. fasc.* 2. *t.* 35.

Myosotis n. 895. *Hall. Hist. v.* 1. 391.

M. arvensis hirsuta, parvo flore. *Tourn. Inst.* 245. *Vaill. Par.* 142. *t.* 30. *f.* 3.

Alsine hirsuta major, foliis subrotundis dilutè virentibus. *Moris. v.* 2. 551. *sect.* 5. *t.* 23. *f.* 10. *In Morison's herbarium at Oxford.*

A. hirsuta, Myosotis latifolia præcocior. *Raii Syn.* 348.

Auricula muris quorundam, flore parvo, vasculo tenui longo. *Bauh. Hist. v.* 3. *p.* 2. 359. *f.*

In fields, waste ground, as well as on walls and dry banks, common. Annual. *April, May.*

Root fibrous, small. *Herb* light green, hairy, of a pale tawny yellowish hue when verging towards decay, very hairy, and somewhat viscid, all over. *Stems* several, rather upright, a span high, round, leafy, panicled, forked, many-flowered, the exterior ones more spreading at first, but finally erect. *Leaves* of a broad ovate, or elliptical, figure, bluntish, slightly recurved and convex, not an inch long. *Fl.* from the forks of the stem, erect, on stalks shorter than the calyx, slightly glutinous, the upper ones crowded. *Calyx-leaves* lanceolate, acute; the inner ones most membranous at the edges. *Pet.* white, hardly longer than the calyx, cloven nearly half way down. *Stam.* 10, all fertile, glandular at the base. *Caps.* twice the length of the calyx, cylindrical, slightly curved upwards. *Seeds* furrowed, tuberculated, tawny.

2. C. *viscosum.* Narrow-leaved Mouse-ear Chickweed.

Hairy, viscid, recumbent. Leaves lanceolate-oblong.

C. viscosum. *Linn. Sp. Pl. ed.* 1. 437. *ed.* 2. 627. *Herb. Linn. n.* 2. *Fl. Suec. ed.* 2. 158. *Fl. Br.* 497. *Engl. Bot. v.* 11. *t.* 790. *Lightf.* 240. *Hook. Scot.* 142.

C. vulgatum. *Huds.* 200. *With.* 433. *Relh.* 178. *Sibth.* 146. *Curt. Lond. fasc.* 2. *t.* 34. *Wade Dubl.* 125.

Myosotis n. 893. *Hall. Hist. v.* 1. 390.

M. hirsuta altera viscosa. *Tourn. Inst.* 245. *Vaill. Par.* 142. *t.* 30. *f.* 1.

Alsine hirsuta altera viscosa, foliis longis saturatiùs virentibus. *Moris. v.* 2. 551. *sect.* 5. *t.* 23. *f.* 11. *In Morison's herbarium.*

A. hirsuta myosotis. *Raii Syn.* 349.

In meadows, pastures, waste ground, and on walls, very common. Perennial. *May—September.*

Root fibrous, and apparently, as Dillenius observes, perennial. *Stems* widely spreading or procumbent; among other plants upright. Whole *herb* of a darker green than the preceding, with longer, narrower, rather less obtuse *leaves*. All the parts of the *flower* are larger; *petals* longer and more conspicuous. *Flower-stalks* generally longer. *Seeds* rugged. *Stam.* 10, all perfect.

Great misconception has prevailed among botanists concerning these two species, owing to Linnæus having misquoted Vaillant. I have been at some pains to ascertain their respective synonyms, from original authorities at Paris and Oxford; but it is impossible to guess what Willdenow intended, as he did not discover the error of Linnæus. Our British botanists, except Mr. Lightfoot, have been regulated merely by the misapplied synonyms of Vaillant, and were therefore led astray. The plants are common enough; but Linnæus originally described the *viscosum* only, which is really viscid, though his *vulgatum* happens to be generally more so.

3. C. *semidecandrum*. Little Mouse-ear Chickweed.

Hairy and viscid. Stamens five. Petals slightly cloven.

C. semidecandrum. *Linn. Sp. Pl.* 627. *Willd. v.* 2. 812. *Fl. Br.* 497. *Engl. Bot. v.* 23. *t.* 1630. *Curt. Lond. fasc.* 2. *t.* 33. *Dicks. H. Sicc. fasc.* 8. 11. *Hook. Scot.* 143. *Ehrh. Herb.* 95.

C. hirsutum minus, flore parvo. *Dill. Giss.* 80. *Raii Syn.* 348. *t.* 15. *f.* 1.

Myosotis n. 894. *Hall. Hist. v.* 1. 391.

M. hirsuta minor. *Tourn. Inst.* 245. *Vaill. Par.* 142. *t.* 30. *f.* 2.

Alsine hirsuta minor. *Bauh. Pin.* 251.

β. Cerastium pumilum. *Curt. Lond. fasc.* 6. *t.* 30. *With.* 435. *Abbot* 102.

In waste or sandy ground; also on walls in the outskirts of towns or villages, very frequent.

β. On dry banks near Croydon, Surrey. *Mr. Dickson.*

Annual. *March, April.*

Root small, fibrous. Colour and habit of the whole plant most like the last, but every part is much smaller, and the herbage often turns reddish. *Stem* solitary, simple or branched, spreading at the base only, otherwise erect, usually about 3 inches high, sometimes twice as much, viscid in the upper part. *Leaves*

ovate-oblong; the lower ones smoothest. *Panicle* spreading, viscid. *Flower-stalks* longer than the calyx, bent down as the flowers fade, but finally erect. *Calyx-leaves* rough and glutinous, obtuse, with a broad white shining margin. *Pet.* pure white, conspicuous, though shorter than the calyx, slightly cloven at the tip, sometimes cut at the side, but irregularly and accidentally. *Stam.* 5, very rarely more. *Styles* 5. *Caps.* slightly curved, twice as long as the calyx. *Seeds* rough, compressed.

β differs slightly in the size of its *petals*, which are cloven about a third of their length.

Haller attributes 3 *styles* only to his *n.* 894. I have never seen or heard of fewer than 5 in the *Cerastium semidecandrum*, which is indubitably a most distinct species, displaying itself on every wall in the early spring, and withering away before the *viscosum* begins to put forth its far less conspicuous blossoms.

4. C. *tetrandrum*. Four-cleft Mouse-ear Chickweed.

Hairy and somewhat viscid. Flowers four-cleft, with four stamens. Petals inversely heart-shaped, shorter than the taper-pointed calyx, which is nearly as long as the capsule.

C. tetrandrum. *Curt. Lond. fasc.* 6. *t.* 31. *Fl. Br.* 498. *Comp.* 72. *Hook. Scot.* 143. *Hoffm. Germ. for* 1800. 212.

Sagina cerastoides. *Sm. Tr. of L. Soc. v.* 2. 343. *Engl. Bot. v.* 3. *t.* 166. *Dicks. H. Sicc. fasc.* 10. 4. *Dryandr. Bibl. Banks. v.* 3. 244.

On the sandy sea coast, walls, and waste ground.

Upon walls about Edinburgh, as well as on the Calton hill, and Arthur's Seat, 1782. Since found by Mr. Dickson, on Inch Keith and Inch Combe, in the Frith of Forth, and on the beach below Preston-pans. Professor Hooker in a note, *Fl. Scot.* 143, says it grows near Yarmouth, Norfolk; but I have not seen specimens.

Annual. *May, June.*

Root small and slender. *Herb* of a bright light green, clothed with short dense hairs, and somewhat viscid. *Stems* several, spreading, or partly procumbent, branched, forked, leafy, from 2 to 6 inches high in a wild state. *Leaves* elliptic-oblong; the upper ones short and ovate. *Flower-stalks* nearly thrice the length of the calyx, erect; bent downward as the fruit ripens. *Cal.* of 4 hairy, viscid, pointed leaves, the 2 innermost narrowest, with a broader membranous margin. *Pet.* 4, white, cloven half way down, and somewhat rounded, so as to be inversely heart-shaped. *Stam.* 4, rarely 5. *Styles* 4, short. *Caps.* a little longer than the calyx, straight, with 8 long linear teeth. *Seeds* roughish at the outer edge.

The figure in *Engl. Bot.*, drawn, like Mr. Curtis's, from a garden

specimen, is very correct and characteristic. Of the distinctions between this species and the last there is no question ; nor can any good botanist who has really compared them together, all theory apart, have a doubt remaining. There is more uncertainty about our *tetrandrum* and the Spanish *pentandrum*, which it most resembles in size, habit, colour, and calyx ; but *C. pentandrum* has 5-cleft flowers with small, acute, scarcely cloven, *petals*, and a remarkably broad membranous margin to the *calyx*. The *flower-stalks* moreover, even when in fruit, do not exceed the *calyx* in length. It is true that the flowers of *C. tetrandrum* by culture now and then become 5-cleft and pentandrous ; but its taper-pointed *calyx* is alone sufficient to keep it distinct from the *semidecandrum*.

5. C. *arvense*. Field Chick-weed.

Leaves linear-lanceolate, bluntish; fringed at the base. Petals twice the length of the calyx; capsule shorter.

C. arvense. *Linn. Sp. Pl.* 628. *Willd. v.* 2. 813. *Fl. Br.* 499. *Engl. Bot. v.* 2. *t.* 93. *Curt. Lond. fasc.* 6. *t.* 29. *Hook. Scot.* 143. *Fl. Dan. t.* 626.

Myosotis n. 889. *Hall. Hist. v.* 1. 389.

M. arvensis, polygoni folio. *Tourn. Inst.* 245. *Vaill. Par.* 141. *t.* 30. *f.* 5.

M. arvensis subhirsuta, flore majore. *Tourn. Inst.* 245. *Vaill. Par.* 141. *t.* 30. *f.* 4.

Caryophyllus arvensis hirsutus, flore majore. *Bauh. Pin.* 210. *Raii Syn.* 348.

C. Holostius. *Ger. Em.* 595. *f.* *Lob. Ic.* 446. *f.*

Auricula muris pulchro flore albo. *Bauh. Hist. v.* 3. *p.* 2. 360. *f.*

In fields, and on banks and hillocks, on a gravelly or chalky soil. Perennial. *May—August.*

Root creeping. *Stems* numerous, slightly branched, leafy, round, covered with fine deflexed hairs ; recumbent and matted at the base ; then ascending ; from 4 inches to a foot in length. *Leaves* lanceolate, about an inch long, various in breadth, bluntly pointed, for the most part densely hairy ; sometimes smooth, but always fringed about the lower part. *Panicles* terminal, of a few large brilliant-white *flowers*, whose *petals* are inversely heart-shaped, and veiny, twice as long as the hairy membranous-bordered *calyx*. *Germen* globose. *Caps.* cylindrical, slender, shorter than the calyx, with 10 oblong teeth, sometimes splitting down into 5 or 10 narrow valves.

6. C. *alpinum*. Alpine Mouse-ear Chickweed.

Leaves elliptical, naked, or clothed with long hairs. Panicle forked, bracteated, of few flowers. Capsule oblong, recurved.

C. alpinum. *Linn. Sp. Pl.* 628. *Willd. v.* 2. 814. *Fl. Br.* 500. *Engl. Bot. v.* 7. *t.* 472. *Hook. Scot.* 144. *Fl. Dan. t.* 6.
C. latifolium. *Lightf.* 242. *t.* 10.
Myosotis n. 888. *Hall. Hist. v.* 1. 389.
Alsines myosotis facie, Lychnis alpina, flore amplo niveo repens. *Raii Syn.* 349. *t.* 15. *f.* 2.

On the mountains of Scotland and Wales, by the sides of alpine rills, plentifully.
By rivulets on the declivities of Snowdon. *Mr. Llwyd.* No where more plentiful than about springs on the lofty mountain of *Widnah*, towards the north. *Dr. Richardson.* On Ben Lomond, near the top, 1782. Not rare on the Highland mountains. *Hooker.*
Perennial. *June, July.*
Root creeping, crowned with tufts of round leafy *stems*, some of them 3 or 4 inches high, bearing sometimes a solitary *flower*, sometimes 2 or 3, in a forked, partially bracteated panicle. *Leaves* elliptical, $\frac{1}{2}$ an inch or more in length, varying in breadth and acuteness, sessile, light green. No plant varies more as to pubescence. Mr. Llwyd originally remarked that some individuals were green, others hoary. The Linnæan specimen is perfectly smooth; others from Wales, Scotland, and Switzerland, quite hoary, even shaggy with long woolly, or silky, jointed hairs, as in Lightfoot's figure. The hairs are too short in the plate, executed by Dillenius, in Ray's *Synopsis*. The *calyx-leaves* are elliptical, scarcely pointed; either hairy or smooth; the inner ones more especially bordered with a white membrane. *Pet.* inversely heart-shaped, much longer than the calyx, white and handsome. *Stam.* 10, all perfect. *Styles* 5. *Caps.* cylindrical, curved, twice as long as the permanent calyx, opening with 10 lanceolate blunt teeth.
The hairy variety has often been taken for the following species.

7. C. *latifolium*. Broad-leaved Mouse-ear Chickweed.

Leaves elliptical, rough with short bristly hairs. Flower-stalks terminal, simple, mostly solitary. Capsule ovate at the base.

C. latifolium. *Linn. Sp. Pl.* 629. *Willd. v.* 2. 817. *Fl. Br.* 501. *Engl. Bot. v.* 7. *t.* 473. *Huds.* 202. *Hook. Scot.* 144. *Jacq. Coll. v.* 1. 256. *t.* 20.
C. tomentosum. *Huds. ed.* 1. 176.
Myosotis n. 887. *Hall. Hist. v.* 1. 389.
Alsine myosotis lanuginosa alpina grandiflora. *Raii Syn.* 349.
Mouse-ear plant. *Mart. Spitzberg.* 47. *chap.* 8. *t.* G. *f.* d. *Ital. ed.* 108. *chap.* 8.

On the Welsh and Scottish mountains.

On Clogwyn y Garnedd, a very high mountain near Llanberris, Caernarvonshire. *Dr. Richardson, and Mr. Griffith.* On the Highland mountains. *Mr. Mackay.* Professor Hooker suspects it to be rare in Scotland.

Perennial. *June, July.*

Rather more dwarf and tufted than the foregoing, of a yellowish hue, from the rough clothing of short, tawny, rigid hairs, always present, as far as I have observed. *Leaves* broader and more obtuse. *Flower-stalks* long, hairy, and viscid, almost always solitary, and without *bracteas*. *Fl.* like the last. *Caps.* straight, sometimes not much longer than the calyx, as in the Linnæan specimen; but it is often considerably longer, and rather cylindrical than ovate, though hardly curved. I have ripe *capsules*, differing in length, on the same specimen, and am doubtful whether the character of the "ovate capsule" ought to be trusted, unless that term be restricted to the base of the *fruit*; but then it applies almost equally well to *C. alpinum*.

8. C. *aquaticum*. Water Mouse-ear Chickweed.

Leaves heart-shaped, sessile. Flower-stalks lateral, solitary. Capsules drooping, ovate, with five cloven teeth. Petals deeply divided.

C. aquaticum. *Linn. Sp. Pl.* 629. *Willd. v.* 2. 816. *Fl. Br.* 501. *Engl. Bot. v.* 8. *t.* 538. *Curt. Lond. fasc.* 1. *t.* 34. *Hook. Scot.* 144.

Alsine n. 885. *Hall. Hist. v.* 1. 388.

A. major repens perennis. *Raii Syn.* 347.

A. major. *Bauh. Pin.* 250. *Ger. Em.* 611. *f.* *Dod. Pempt.* 29. *f.* *Dalech. Hist.* 1232. *f.* *Camer. Epit.* 851. *f.*

A. maxima. *Lob. Ic.* 460. *f.*

A. maxima solanifolia. *Mentz. Pugill. t.* 2. *f.* 3.

In watery places, and the margins of rivers and ditches.

Perennial. *July.*

Root creeping. *Stems* weak and straggling, 2 feet long, more or less, branched, forked, leafy, round, covered with prominent viscid hairs. *Leaves* heart-shaped, acute, wavy, hairy, of a bright pleasant green, all sessile, except a few of the lowermost occasionally. *Flower-stalks* lateral between the leaves, single-flowered, hairy and viscid all over; bent downwards after flowering. *Calyx-leaves* ovate, acute, hairy, slightly bordered. *Pet.* about the same length, white, in 2 deep, narrow, bluntish, spreading lobes. *Stam.* always 10; and *styles* 5. *Caps.* ovate, about the length of the calyx, or longer, opening with 5 teeth, each of which I have lately found to be cloven, though not so expressed in Curtis, or in *Engl. Bot.*

The general appearance of this plant much resembles *Stellaria nemorum, p.* 300, and it is remarkable that Linnæus once confounded them, including *S. media*; which only shows that at

the moment he paid little attention to the subject, for surely they are all equally distinct and well marked.

244. SPERGULA. Spurrey.

Linn. Gen. 232. *Juss.* 301. *Fl. Br.* 502. *Dill. Gen.* 131. *t.* 7. *Lam. t.* 392. *Gærtn. t.* 130.

Nat. Ord. sec *n.* 241.

Cal. inferior, of 5 ovate, obtuse, spreading, permanent leaves, more or less membranous at the edges. *Pet.* 5, ovate, with very short claws, concave, spreading, larger than the calyx, undivided. *Filam.* 10, sometimes but 5, awl-shaped, shorter than the corolla. *Anth.* roundish, 2-lobed. *Germ.* superior, ovate. *Styles* 5, short, slender, spreading. *Stigmas* downy. *Caps.* ovate, membranous, of 1 cell and 5 connected valves, covered with the permanent calyx. *Seeds* roundish or kidney-shaped, compressed, rough or smooth, sometimes with a membranous border.

Herbaceous, with slender linear *leaves*, and white *flowers*. Distinguished from *Cerastium*, as Linnæus remarks, by having undivided *petals*. But the 5 valves, or deeply separated teeth, of the *capsule* are full as important, and the natural habit of the whole genus is more allied to *Arenaria*, from which *Spergula* differs solely in having 5 *styles*, and a corresponding number of valves to the *fruit*.

1. S. *arvensis*. Corn Spurrey.

Leaves whorled. Stalks when in fruit reflexed.

S. arvensis. *Linn. Sp. Pl.* 630. *Willd. v.* 2. 818. *Fl. Br.* 502. *Engl. Bot. v.* 22. *t.* 1535. *Curt. Lond. fasc.* 5. *t.* 31. *Hook. Scot.* 144. *Fl. Dan. t.* 1033. *Ehrh. Herb.* 66. *Gunn. Norveg. p.* 1. 16. *Hoffm. Germ. for* 1800. 213.

Spergula. *Dod. Pempt.* 537. *f. Frument.* 139. *f. Dalech. Hist.* 1331. *f. Bauh. Hist. v.* 3. 719, 2. *f.*

Alsine n. 873. *Hall. Hist. v.* 1. 385.

A. Spergula dicta major. *Bauh. Pin.* 251. *Raii Syn.* 351. *Duham. Cult. v.* 6. 149. *t.* 1.

Saginæ Spergula. *Ger. Em.* 1125. *f.*

β. Spergula pentandra. *Engl. Bot. v.* 22. *t.* 1536. *Comp.* 72. *Abbot* 102 ?

Alsine Spergula dicta, semine membran. fusco. Moris. *Raii Syn. ed.* 2. 210 ?

γ. S. pentandra. *Linn. Sp. Pl.* 630. *ed.* 1. 440. *Willd. v.* 2. 818. *Fl. Br.* 503. *Loefl. It. Hisp.* 143. *Roth Germ. v.* 1. 196. *v.* 2. 505.

Hoffm. Germ. for 1800. 213. *Ehrh. Herb.* 76. *Wahlenb. Lapp.* 138, *under n.* 249.

S. annua, semine foliaceo nigro, circulo membranaceo albo cincto. *Dill. in Raii Syn.* 351. *Giss.* 46. *Ephem. Nat. Cur. cent.* 5 *and* 6. 275. *t.* 4. *f.* 1.

Alsine marginata. *Schreb. Lips.* 31.

A. spergulæ facie minima. *Magn. Monsp.* 14.

A. spergulæ facie minima, seminibus marginatis. *Tourn. Inst.* 244. Linnæus by mistake always quotes it *emarginatis*.

A. Spergula annua, semine foliaceo nigro, circulo membranaceo albo cincto. *Moris. v.* 2. 551. *sect.* 5. *t.* 23. *f. last but one, marked* 2. *Hort. Bles.* 228.

Arenaria teretifolia verna, flore albo, semine limbo foliaceo cincto. *Rupp. Jen.* 101. *ed. Hall.* 113.

In sandy corn-fields.

β. About the botanic garden, Liverpool. *Mr. J. Shepherd.*

γ. In sandy ground in Ireland. *Sherard.*

Annual. *June, July.*

Root small, tapering. *Stems* spreading, lax, from 6 inches to 2 feet in length, moderately branched, jointed, leafy; round in the lower part; angular upwards; hairy and viscid, especially in the upper part; each branch terminating in a forked, divaricated, downy, viscid *panicle*. *Leaves* numerous at every joint, irregularly and imperfectly whorled, linear, narrow, fleshy, downy, sometimes nearly smooth, bluntish; flat above; rounded beneath. *Stipulas* in pairs under each whorl, membranous, very short. *Flower-stalks* an inch or more in length, round, slender, downy, spreading; strongly reflexed as the fruit ripens. *Calyx-leaves* obtuse, downy, with membranous edges. *Pet.* white, a little longer than the calyx. *Stam.* generally 10, often 5, or some intermediate number. *Styles* constantly 5. *Caps.* longer than the calyx, splitting more than half way down into 5 undivided teeth or valves. *Seeds* numerous, roundish, commonly black, tumid and angular, with an obsolete border, and covered with small tubercles or bristles; but in β they are compressed, smooth, with a narrow whitish membranous border; and in γ they are quite flat, pale with a dark edge, and a white, membranous, striated border, or wing, equal to the seed itself in breadth.

I concur with Professor Hooker in considering β as but a slight variety, there being not the smallest difference in the size or structure of any part of the plant, except the *seeds*, in which indeed the difference is remarkable. But intermediate appearances may be traced between the round rough angular *seeds* of the common Spurrey, and the smooth, lenticular, bordered ones of this variety. There is the same difference in *Arenaria marina*, compared with *rubra*; but there are presumed to be other specific marks between these two plants. On the other hand, *Sper-*

gula pentandra, of which I have Lœfling's original specimens described by Linnæus, as well as Ehrhart's; and others gathered by Mr. Schleicher in Switzerland; differs from β as *Arenaria media* does from *marina*, in having a broad, white, striated, orbicular wing to each *seed*. This Dr. Wm. Sherard must be presumed to have gathered in Ireland; but I have seen no native specimens. All the foreign ones now before me are much smaller than either of the preceding varieties, being from 2 to 6 inches high; and the annular swelling under each joint, mentioned by Dr. Wahlenberg, may be perceived; but I find nothing like a decisive character, in the *stem*, *leaves*, or other parts. The *stamens* are said to be 5; Lœfling once saw 7; they are also usually 5 in our β; but their number is certainly variable in all the three varieties. I think *Arenaria media* and *marina*, above alluded to, sanction the union of these three *Spergulæ*; if the latter do not persuade us to refer those two *Arenariæ* to the *rubra*.

2. S. *nodosa*. Knotted Spurrey.

Leaves opposite, awl-shaped, smooth; upper ones clustered. Calyx without ribs.

S. nodosa. *Linn. Sp. Pl.* 630. *Willd. v.* 2. 819. *Fl. Br.* 503. *Engl. Bot. v.* 10. *t.* 694. *Curt. Lond. fasc.* 4. *t.* 34. *Hook. Scot.* 145. *Fl. Dan. t.* 96.

Alsine n. 871. *Hall. Hist. v.* 1. 384.

A. palustris, foliis tenuissimis, seu Saxifraga palustris anglica. *Raii Syn.* 350.

A. nodosa germanica. *Bauh. Pin.* 251. *Prodr.* 118.

A. palustris ericæfolia polygonoides, articulis crebrioribus, flore albo pulchello. *Pluk. Almag.* 23. *Phyt. t.* 7. *f.* 4.

Arenaria. *Bauh. Hist. v.* 3. *p.* 2. 720. *f.*

Polygonum foliis gramineis alterum. *Læs. Pruss.* 204. *t.* 64.

Sand Chickweed. *Pet. H. Brit. t.* 59. *f.* 5.

In moist sandy or turfy ground.

Perennial. *July*, *August*.

Root fibrous. *Herb* quite smooth, of a dark shining green. *Stems* spreading, or prostrate, numerous, slender, round, from 3 to 5 or 6 inches long, beset with numerous pairs of short awl-shaped *leaves*, accompanied by dense axillary tufts of smaller ones. The *radical leaves* are much longer, measuring an inch or more. *Fl.* of a brilliant white, large, few together, on simple stalks, towards the top of each stem. *Cal.* blunt, without keel or ribs. *Pet.* obovate. An *Arenaria* in habit, and every thing else, but the 5 *styles*, and 5 valves of the *capsule*, which last is seldom perfected.

3. S. *saginoides*. Smooth Awl-shaped Spurrey.

Leaves opposite, awl-shaped, almost pointless, naked.

Flower-stalks solitary, smooth, much longer than the leaves.

S. saginoides. *Linn. Sp. Pl.* 631. *Willd. v.* 2. 820. *Fl. Br.* 504. *Engl. Bot. v.* 30. *t.* 2105. *Hook. Scot.* 145. *Swartz Stockh. Trans. for* 1789. 44. *t.* 1. *f.* 2. *Wahlenb. Lapp.* 138.

Alsine foliis gramineis, sæpè fasciculatis, glabris, pedunculis longis nudis unifloris. *Gmel. Sib. v.* 4. 157; *from the author.*

A. n. 862. *Hall. Hist. v.* 1. 382. *Davall.*

Stellaria biflora. *Fl. Dan. t.* 12; *but not of Linnæus.*

On the highland mountains of Scotland.

On Mael-ghyrdy. *Mr. G. Don.* Ben Lawers. *Mr. J. Mackay.*

Perennial. *June.*

Root fibrous. *Herb* quite smooth. *Stems* several, in patches, decumbent in their lower part, then erect, 2 or 3 inches long, round, jointed, leafy. *Leaves* combined at their base, very slightly pointed. *Flower-stalks* terminal, solitary, erect, reddish occasionally, often as long as the whole stem, quite smooth and naked. *Fl.* white, a little drooping. *Calyx-leaves* obtuse, obscurely ribbed, smooth; tumid at the base. *Pet.* obovate, hardly so long as the calyx. *Stam.* with us 10; Dr. Swartz says 5. *Styles* 5. *Caps.* of 5 distinct, oblong valves, recurved at the extremity, twice the length of the calyx. *Seeds* roundish-kidney-shaped, brown, smooth, not bordered.

This is altogether a *Sagina* in habit, very much resembling the common *procumbens;* but without adverting to number or size, the structure of each part, carefully examined, shows sufficient differences.

4. S. *subulata.* Fringed Awl-shaped Spurrey.

Leaves opposite, awl-shaped, bristle-pointed, fringed. Flower-stalks solitary, much longer than the leaves, slightly hairy.

S. subulata. *Swartz Stockh. Trans. for* 1789. 45. *t.* 1. *f.* 3. *Willd. v.* 2. 820. *Fl. Br.* 505. *Engl. Bot. v.* 16. *t.* 1082. *With.* 436. *Hook. Scot.* 145.

S. laricina. *Huds.* 203. *Lightf.* 244. *Fl. Dan. t.* 858.

S. saginoides. *Curt. Lond. fasc.* 4. *t.* 35. *Ehrh. Herb.* 7.

Sagina procumbens β. *Linn. Sp. Pl.* 185. *Willd. v.* 1. 719.

Saxifraga graminea pusilla, foliis brevioribus, crassioribus, et succulentioribus. *Raii Syn.* 345.

On barren sandy heaths.

Perennial. *July, August.*

Root, size and habit much agreeing with the last; but the *leaves* are fringed with glandular, or slightly viscid, hairs, and terminate each in a very conspicuous hair-like point, not sufficiently expressed in *Engl. Bot. Fl.* but half the size of the *saginoides,* and more erect. *Cal.* strongly keeled, at least when in fruit.

Pet. white, obovate, as long as the calyx, or nearly so. *Stam.* more frequently 5 than 10. *Caps.* of 5 lanceolate valves, a little longer than the calyx. *Seeds* kidney-shaped, compressed, pale brown, encircled with a black line, but without any dilated margin.

I have never found the marginal hairs wanting on the *leaves*, though they are commonly very minute. The *flower-stalks* are longer in proportion to the *flowers* than in the preceding, always more or less glandular and viscid, and the *flowers* are almost perfectly erect.

Class XI. DODECANDRIA.
Stamens 12—20.

Order I. MONOGYNIA. Pistil 1.

245. ASARUM. *Cor.* 0. *Cal.* 3-cleft, superior. *Caps.* of 6 cells.

246. LYTHRUM. *Pet.* 6. *Cal.* 12-cleft, inferior.

Order II. DIGYNIA. Pistils 2.

247. AGRIMONIA. *Pet.* 5, borne by the calyx. *Seeds* in the bottom of the hardened calyx.

Order III. TRIGYNIA. Pistils 3.

248. RESEDA. *Pet.* in many segments. *Caps.* of 1 cell, gaping.

(*Euphorbia* removed to *Monoecia Monandria.*)

(*TETRAGYNIA. Pistils* 4.)

Tormentilla 1.

Order IV. DODECAGYNIA. Pistils 12.

249. SEMPERVIVUM. *Pet.* 12. *Cal.* in 12 deep segments. *Caps.* 12.

DODECANDRIA MONOGYNIA.

245. ASARUM. Asarabacca.

Linn. Gen. 235. *Juss.* 73. *Fl. Br.* 509. *Tourn. t.* 286. *Lam. t.* 394. *Gærtn. t.* 14.

Nat. Ord. *Sarmentaceæ.* Linn. 11. Subsequently, but with hesitation, removed by him to the *Rhœadeæ.* 27. *Aristolochiæ.* Juss. 23.

Cal. superior, of 1 leaf, bell-shaped, coriaceous, coloured, permanent, in 3 rather deep, upright segments, with incurved points. *Cor.* none. *Filam.* 12, awl-shaped, half the length of the calyx. *Anth.* attached to the inner side of the filaments, below the summit, each of 2 round, separated cells. *Germ.* inferior, turbinate. *Style* columnar, furrowed, nearly as long as the stamens. *Stigma* in 6 deep, stellated, recurved segments. *Caps.* coriaceous, of 6 cells, not bursting, its outer coat a continuation of the calyx. *Seeds* several in each cell, obovate, with a pale longitudinal crest.

Dwarf, creeping, aromatic herbs, with simple, long-stalked, heart- or kidney-shaped, entire *leaves;* and solitary, stalked *flowers*, of a dull greenish purple.

1. A. *europæum.* Common Asarabacca.

Leaves two on each stem, kidney-shaped, obtuse.

A. europæum. *Linn. Sp. Pl.* 633. *Willd. v.* 2. 838. *Fl. Br.* 509. *Engl. Bot. v.* 16. *t.* 1083. *Woodv. t.* 86. *Hook. Scot.* 146. *Fl. Dan. t.* 633. *Bull. Fr. t.* 69.

A. n. 1547. *Hall. Hist. v.* 2. 252.

Asarum. *Bauh. Pin.* 197. *Raii Syn.* 158. *Ger. Em.* 836. *f. Mill. Ic.* 35. *t.* 53. *Brunf. Herb. v.* 1. 71. *f. Trag. Hist.* 64. *f. Cord. Hist.* 112. *f. Fuchs. Hist.* 10. *f. Matth. Valgr. v.* 1. 33. *f. Camer. Epit.* 19. *f. Dalech. Hist.* 913. *f.* 914. *Palmberg Sert.* 175. *f.*

In mountainous woods in the north of England.

In several woods in Lancashire; Leigh. *Ray.* Near Kirkby Lonsdale, Westmoreland, where it is gathered out of the woods for medical use. *Dr. Batty.* Professor Hooker suspects this plant to be not really a native of Scotland; but that it is truly wild in the northern counties of England cannot be doubted. It

may have been naturalized in some other parts, where it occasionally occurs.

Perennial. *May.*

Roots creeping, entangled, with numerous, branching, stout fibres; their scent when bruised very peculiar, partaking of pepper and ginger; and they are said to be purgative, as well as emetic. *Stems* very short and simple, round, each bearing two dark green, shining, kidney-shaped, rather downy, *leaves*, two inches wide, on long downy stalks, and one drooping *flower*, not an inch long, fleshy in substance, of a lurid and singular aspect. The powdered *leaves* are used to provoke sneezing; a few grains at a time may be safely taken, and they produce a considerable discharge of fluid by the nostrils. The herb increases plentifully by seed, without any care, as well as by root, in dry shady situations.

246. LYTHRUM. Purple Loosestrife.

Linn. Gen. 240. *Juss.* 332. *Fl. Br.* 509. *Lam. t.* 408. *Gærtn. t.* 62.

Salicaria. *Tourn. t.* 129.

Nat. Ord. *Calycanthemæ.* Linn. 17. *Salicariæ.* Juss. 91.

Cal. inferior, of 1 leaf, cylindrical, striated, with 12 marginal teeth, alternately larger and smaller. *Pet.* 6, *elliptic-oblong*, equal, wavy, with short claws, inserted into the rim of the calyx, spreading. *Filam.* 12, thread-shaped, from the tube of the calyx, shorter than the corolla, the 6 alternate ones shortest, and sometimes wanting; all incurved while young. *Anth.* roundish, incumbent. *Germ.* superior, ovate-oblong. *Style* thread-shaped, about as long as the longest stamens, a little curved. *Stigma* capitate. *Caps.* inclosed in the tube of the calyx, oblong, membranous, pointed, of 2 cells. *Seeds* numerous, minute, obovate-oblong.

Herbs with simple, entire, oblong *leaves*, square *stems*, and purple, axillary, nearly sessile *flowers*.

Some species have occasionally, or constantly, flowers with but 5 *petals* and 10 *stamens*. In others, half the *stamens* are abortive, or entirely absent. Several plants referred by Linnæus to *Lythrum* are now properly excluded; especially those with irregular *flowers*, constituting the *Cuphea* of Jacquin, a fine South-American genus.

1. L. *Salicaria.* Spiked Purple-Loosestrife.

Leaves opposite, lanceolate; heart-shaped at the base. Flowers in whorled leafy spikes. Stamens twelve.

L. Salicaria. *Linn. Sp. Pl.* 640. *Willd. v.* 2. 865. *Fl. Br.* 510. *Engl. Bot. v.* 15. *t.* 1061. *Curt. Lond. fasc.* 3. *t.* 28. *Hook. Scot.* 147. *Fl. Dan. t.* 671.

Salicaria n. 854. *Hall. Hist. v.* 1. 378.

S. vulgaris purpurea, foliis oblongis. *Raii Syn.* 367.

Lysimachia spicata purpurea. *Bauh. Pin.* 246. *Ger. Em.* 276. *f.*

L. altera. *Matth. Valgr. v.* 2. 299. *f. Camer. Epit.* 687. *f. Dalech. Hist.* 1059. *f.*

L. purpurea communis major. *Clus. Hist. v.* 2. 51. *f.*

In ditches and watery places, especially about the margins of ponds and rivers, abundantly.

Perennial. *July, August.*

Root woody, branching at the crown. *Stems* from 2 to 4 feet high, erect, acutely quadrangular, either smooth or downy, leafy, generally simple. *Leaves* nearly sessile, lanceolate, acute, entire, various in length, the upper ones diminished to *bracteas;* all mostly opposite; but there are occasionally 3, or even 4, in each whorl; in which cases the number of angles in the stem is likewise increased. *Fl.* in numerous axillary whorls, 6 in each, of a variable crimson or purple, composing long leafy spikes, of great splendour and elegance, but without smell. Six of the *calyx-teeth* are long and reddish; the others minute. *Anthers* conspicuous, red, with green or yellow pollen. *Capsule* elliptical, small. The herbage, generally almost smooth and of a dark green, becomes in dry situations hoary and downy, or in some degree hairy, as well as more dwarf in stature.

2. L. *hyssopifolium.* Hyssop-leaved Purple-Loosestrife. Grass-poly.

Leaves alternate, linear-lanceolate. Flowers axillary, solitary. Stamens six.

L. hyssopifolium. *Sibth.* 149. *Fl. Br.* 510. *Engl. Bot. v.* 5. *t.* 292. *Purton v.* 1. 227. *t.* 2.

L. Hyssopifolia. *Linn. Sp. Pl.* 642. *Willd. v.* 2. 869. *Dicks. H. Sicc. fasc.* 16. 2. *Jacq. Austr. t.* 133.

Salicaria n. 855. *Hall. Hist. v.* 1. 378.

S. Hyssopi folio latiore et angustiore. *Raii Syn.* 367. *Rupp. Jen. ed. Hall.* 147. *t.* 6. *f.* 2.

Hyssopifolia. *Bauh. Pin.* 218.

H. sive Gratiola minor. *Bauh. Prodr.* 108. *f.*

H. aquatica. *Bauh. Hist. v.* 3. *p.* 2. 780, 2. *f.*

Gratiola angustifolia. *Ger. Em.* 581. *f.*

In partially dried pits or ditches; or places where water has stagnated during winter; but not common.

On Hounslow heath. *Hudson.* In several parts of Cambridgeshire, Huntingdonshire, Bedfordshire, and Oxfordshire. *Sibth. Relh. Abbot,* &c. In Suffolk. *Dickson.* Worcestershire. *Purton.*

Annual. *August.*

Root tapering. *Herb* of humble growth, with several purplish, leafy *stems*, seldom branched, of which one only is upright; the rest spreading or recumbent. *Leaves* bluntish, varying in breadth, about an inch long; a pair or two of the lowermost opposite; the rest alternate. *Fl.* small, nearly sessile, light purple; each with a pair of small *bracteas* at the base. Segments of the *calyx* all short, the narrower ones spreading. *Stam.* only 6, short, in a single row within the tube of the calyx. Some flowers are deficient in a sixth of all their parts.

DODECANDRIA DIGYNIA.

247. AGRIMONIA. Agrimony.

Linn. Gen. 241. *Juss.* 336. *Fl. Br.* 511. *Tourn. t.* 155. *Lam. t.* 409. *Gærtn. t.* 73.

Nat. Ord. *Senticosæ.* Linn. 35. *Rosaceæ.* Juss. 92. See *n.* 74, 78; also *Grammar* 172, *sect.* 3.

Cal. inferior, of 1 leaf, tubular, permanent, with 5 small, acute, permanent marginal segments; the tube subsequently hardened, closed over the seeds. *Pet.* 5, flat, spreading, notched, each with a small narrow claw, attached to the rim of the calyx. *Filam.* capillary, from the rim of the calyx, shorter than the corolla, indeterminate in number, from 7 to 20. *Anth.* small, compressed, 2-lobed. *Germens* 2, sometimes 3, in the bottom of the calyx, ovate, compressed. *Styles* lateral, simple, the length of the stamens. *Stigm.* obtuse, undivided. *Seeds* 2, occasionally 1, or 3, ovate, smooth, compressed, pointed, erect, inclosed in the hardened tube of the calyx.

Astringent, aromatic, hairy, mostly perennial herbs; with interruptedly pinnate, cut, rarely ternate, *leaves*, each accompanied by a pair of *stipulas* united to the *footstalk*. *Flowers* numerous, spiked, yellow.

1. A. *Eupatoria.* Common Agrimony.

Stem-leaves pinnate; leaflets elliptic-oblong; terminal one stalked. Calyx encompassed with bristles. Spikes elongated.

A. Eupatoria. *Linn. Sp. Pl.* 643. *Willd. v.* 2. 875. *Fl. Br.* 511. *Engl. Bot. v.* 19. *t.* 1335. *Curt. Lond. fasc.* 5. *t.* 32. *Mart. Rust. t.* 37. *Woodv. suppl. t.* 258. *Hook. Scot.* 147. *Fl. Dan. t.* 588. *Bull. Fr. t.* 229.

A. n. 991. *Hall. Hist. v.* 1. 423.

Agrimonia. *Raii Syn.* 202. *Ger. Em.* 712. *f.*

A. sive Eupatorium. *Dod. Pempt.* 27. *f.* 28.

Eupatorium. *Matth. Valgr. v.* 2. 362. *f. Camer. Epit.* 756. *f. Fuchs. Hist.* 243. *f.* 244. *Ic.* 136. *f.*

E. Græcorum, Agrimonia officinarum. *Lob. Ic.* 692. *f.*

In bushy places, by road sides, and about the borders of fields.

Perennial. *June, July.*

Root tapering, reddish, branched at the summit, not creeping; its flavour very astringent. *Herb* deep green, covered with soft silky hairs, and when slightly bruised exhaling a peculiar, but grateful, aromatic scent. *Stem* about 2 feet high, scarcely branched. *Leaves* alternate, a span long, of several pair of coarsely serrated leaflets, with various small intermediate ones; the terminal leaflet more or less stalked, the size of the former. *Stipulas* of the upper leaves rounded, palmate. *Fl.* very numerous, yellow, in a dense tapering spike, with lobed *bracteas*. *Cal.* of the fruit encircled with a thick whorl of hooked prickles, which attach themselves to any thing that comes in their way, like burs.

The herb is slightly bitter, aromatic and astringent, evincing a tonic property, for which it has always been noted, and which has procured it a place in several British-Herb teas.

DODECANDRIA TRIGYNIA.

248. RESEDA. Rocket.

Linn. Gen. 242. *Juss.* 245. *Fl. Br.* 512. *Tourn. t.* 238. *Lam. t.* 410. *Gærtn. t.* 76.

Luteola, also Sesamoides. Tourn. t. 238.

Nat. Ord. *Miscellaneæ*. Linn. 54. *Capparides*. Juss. 64. *Resedaceæ*. DeCand. 31. Hook. Scot. p. 2. 204. This order is marked with a sign of doubt by the learned M. DeCandolle himself, and it is indeed very anomalous and obscure. I can trace no affinity in *Reseda* to any other order; certainly not to *Euphorbiæ*, or *Tricoccæ*.

Cal. inferior, of one leaf, deeply divided into several narrow, spreading, irregular, permanent segments. *Pet.* 3, 4, 5 or 6, unequal, deciduous, variously, for the most part, jagged, some of them 3-cleft; the uppermost concave at the base, as long as the calyx; the lowermost often undivided. *Nect.* a flat, erect, solid, permanent, coloured gland, at the upper side of the flower, proceeding from the *receptacle*, between the uppermost petal, or petals, and the *stamens*. *Filam.* 11 or 15, in some instances more, short, capillary, drooping. *Anth.* elliptic-oblong, erect. *Germ.* superior, angular, unequally tumid. *Styles* 3, rarely 4, terminal, short, or scarcely any. *Stigmas* obtuse. *Caps.* pitcher-shaped, angular, tumid, coriaceous, open at the top between the styles, of 1 cell. *Seeds* numerous, kidney-shaped, stalked, ranged along 3 lateral longitudinal *receptacles*.

The *styles* are occasionally 4 in various species, and the receptacles of the *seeds* always agree with them in number. Nothing can be more various, or more changeable, than the forms of the *petals*, or number of the *stamens*. The plants are herbaceous, their surface minutely papillary, not hairy; when bruised they are fœtid, though the *flowers* of some are fragrant. *Leaves* alternate, simple, mostly pinnatifid. *Fl.* numerous, pallid, racemose.

Mr. J. Lindley, in a work no less scientific than splendid, has given a most ingenious, though perhaps too metaphysical, view of this genus, in which he considers the flowers as aggregate, or capitate, the lateral ones being but rudiments, represented by some of the petals, and the central one alone perfect. Mr. Brown's idea of *Anthoxanthum* and *Hierocle*, see v. 1. 37 and 110, is somewhat analogous to this.

1. R. *Luteola*. Dyer's Rocket. Yellow-weed, or Weld.

Leaves lanceolate, undivided. Calyx in four segments.

R. Luteola. *Linn. Sp. Pl.* 643. *Willd. v.* 2. 876. *Fl. Br.* 512. *Engl. Bot. v.* 5. *t.* 320. *Mart. Rust. t.* 40. *Hook. Scot.* 147.

R. n. 1058. *Hall. Hist. v.* 2. 12.
Luteola. *Raii Syn.* 366. *Ger. Em.* 494. *f.*
L. herba, salicis folio. *Bauh. Pin.* 100.
Pseudostruthium. *Matth. Valgr. v.* 2. 643 *f.* *Camer. Epit.* 356. *f.* *Dalech. Hist.* 822. *f.*
Antirrhinon. *Trag. Hist.* 362. *f.*
β. Luteola minima, polygalæ folio. *Dill. in Raii Syn.* 367 ?

In waste ground, especially on a chalky soil, as well as in fallow fields, and on walls.
β. In corn-fields on Mount Ephraim, Tunbridge Wells. *Mr. Du Bois.*
Annual. *July.*
Root tapering. *Stem* wand-like, striated, leafy, somewhat branched, smooth like the rest of the herb, 2 or 3 feet high. *Leaves* sessile, of a darkish green, linear-lanceolate, obtuse, entire, single-ribbed, occasionally undulated; frequently furnished with a small tooth on each side at the base. *Clusters* terminal, erect, many-flowered, dense, pointed. *Bracteas* small, linear-lanceolate, acute, solitary at the base of each short simple partial-stalk. *Flowers* small, without much scent. *Petals* greenish white, naturally 3; the uppermost variously lobed; lateral ones of 3 acute equal lobes; but there are occasionally 2 small undivided petals at the base. *Nectary* green. *Stam.* numerous, with yellow *anthers*. *Styles* 3. *Caps.* short, depressed.
From the description of Du Bois in Ray's *Synopsis*, the variety β might be suspected to be *R. Sesamoides* of Linnæus; but it is expressly said not to belong to the genus *Sesamoides* of Tournefort. I have seen no specimens.
R. Luteola is rather fœtid when bruised. It serves for dyeing wool yellow, or, with indigo, green; the whole plant, when about flowering, being boiled for that purpose.

2. R. *lutea*. Base Rocket. Wild Mignonette.

Leaves deeply three-lobed; lower ones pinnatifid. Calyx in six divisions.

R. lutea. *Linn. Sp. Pl.* 645. *Willd. v.* 2. 879. *Fl. Br.* 513. *Engl. Bot. v.* 5. *t.* 321. *Hook. Scot.* 147. *Jacq. Austr. t.* 353. *Bull. Fr. t.* 281. *Bauh. Hist. v.* 3. *p.* 2. 467. *f*, bad. *Dalech. Hist.* 1199. *f*, not much better.
R. n. 1056. *Hall. Hist. v.* 2. 11.
R. vulgaris. *Bauh. Pin.* 100. *Raii Syn.* 366.
R. Plinii. *Ger. Em.* 277. *f.* *Lob. Ic.* 222. *f.*
Base Dyer's Weed. *Pet. H. Brit. t.* 37. *f.* 11.
β. Reseda crispa gallica. *Bocc. Sic.* 77. *t.* 41. *f.* 3. *Dill. in Raii Syn.* 366.

On chalky hills and waste places, abundantly.
Annual, or, in mild winters, perennial. *July, August.*

Root rather woody, in dry warm countries or seasons, often perennial. *Stem* bushy, about 2 feet high, branched, striated, leafy, smooth. *Leaves* somewhat stalked, smooth, in 3 linear-oblong, decurrent, entire, flat or wavy, principal segments; the lower ones more numerously divided, and pinnatifid. *Clusters* terminal, many-flowered, tapering, with longer partial stalks than the last, each having a narrow *bractea* at the base. *Fl.* buff-coloured, slightly scented. *Pet.* 6, variously lobed. *Nectary* green, notched, and fringed. *Caps.* oblong, prismatic, very unequal at the sides.

β is a slight variety, though supposed by the great Sherard, on account of its often perennial root, to be a distinct species. The Sweet Mignonette, *R. odorata*, though usually annual, may by care in a greenhouse, and constant pruning, be rendered perennial, and even shrubby.

EUPHORBIA, placed by Linnæus in this Order, is now understood by Jussieu and Brown to have separated flowers, conformably to the general character of its natural order. What Linnæus and others have taken for *stamens*, appear to be distinct monandrous *barren flowers*, destitute of *calyx* and *corolla*, and each consisting merely of a *stamen*, distinguished from its stalk by a separating joint only, occasionally marked with some discoloration. The number of these *flowers* is indefinite, their period of perfection various, and they stand, several together, in one common *involucrum*, with a central, solitary, *fertile flower*. Consequently *Euphorbia* is to be removed to *Monœcia Monandria*.

DODECANDRIA DODECAGYNIA.

249. SEMPERVIVUM. Houseleek.

Linn. Gen. 244. *Juss.* 307. *Fl. Br.* 522. *Lam. t.* 413. *Schmid. Ic. t.* 17. *Gærtn. t.* 65.

Sedum. *Tourn. t.* 140. *f.* C—I, P.

Nat. Ord. *Succulentæ.* Linn. 13. *Sempervivæ.* Juss. 83.

Cal. inferior, of 1 leaf, concave, permanent, in from 6 to 12, more or less, deep, uniform, fleshy, rather acute, segments. *Pet.* as many as the segments of the calyx, and somewhat larger, lanceolate, acute, channelled, equal, spreading, withering. *Nect.* an occasional, very minute, entire scale, at the base of each germen on the outer side. *Filam.* as many, or twice as many, as the petals, opposite to them, but not so long, when more numerous, partly alternate, awl-shaped, spreading. *Anth.* of 2 round lobes. *Germ.* as many as the stamens, ranged in a radiating circle, oblong, pointed, compressed, each terminating in a spreading *style*, with a blunt *stigma*. *Caps.* as many as the germens, and of the same figure, as well as position, pointed, bursting along their upper or inner margin. *Seeds* numerous, minute, arranged along the inner margin, at each side.

Very succulent, herbaceous or shrubby; the *leaves* simple, undivided, entire, numerously disposed in rosaceous tufts. *Fl.* spiked or clustered, yellow, reddish, pallid, or greenish. In our only British species, I have never found any *nectaries*; but the microscopic Schmidel says they exist in every *Sempervivum*. If so, they will not serve, except by being notched in *Sedum*, to distinguish that genus from the present. I have not seen the 12 imperfect *stamens*, nor the abortive *germens*, mentioned by Professor Hooker, *Fl. Scot.* 149.

1. S. *tectorum.* Common Houseleek.

Leaves fringed. Offsets spreading. Edges of the petals hairy, entire.

S. tectorum. *Linn. Sp. Pl.* 664. *Willd. v.* 2. 932. *Fl. Br.* 522. *Engl. Bot. v.* 19. *t.* 1320. *Curt. Lond. fasc.* 3. *t.* 29. *Hook. Scot.* 149. *Fl. Dan. t.* 601.

S. majus. *Raii Syn.* 269. *Ger. Em.* 510. *f. Matth. Valgr. v.* 2. 461. *f. Camer. Epit.* 854. *f.*
Sedum n. 949. *Hall. Hist. v.* 1. 409.
S. majus. *Fuchs. Hist.* 32. *f. Ic.* 17. *f.*

On walls and cottage roofs, frequent.
Perennial. *July.*

Root fibrous, crowned with several rosaceous tufts of numerous, oblong, acute, keeled, fringed, extremely succulent *leaves*. *Stem* from the centre of one of those tufts, a foot high, erect, round, downy, clothed with several, more narrow, sessile, alternate leaves, and terminating in a sort of many-flowered *cyme*, with spiked branches. *Fl.* large, pale rose-coloured, without scent. Segments of the *calyx* 12 or more, with a similar number of *petals*, *stamens* and *pistils*.

The leaves are cooling, when applied externally, and frequently renewed. They possess moreover an astringent property, which is rather salutary in many cases. The Dispensatory describes a beautiful white highly volatile coagulum, formed of the filtrated juice of these leaves, with an equal quantity of rectified spirit of wine.

Class XII. ICOSANDRIA. *Stam.* 20 *or more, from the rim of the calyx.*

Order I. MONOGYNIA. Pistil 1.

250. PRUNUS. *Cal.* inferior, 5-cleft. *Pet.* 5. *Nut* of the *drupa* with slightly prominent seams.

Mespilus 1.

Order II. PENTAGYNIA. Pistils 2—5.

251. MESPILUS. *Cal.* superior, 5-cleft. *Pet.* 5. *Apple* with 2—5 bony single-valved capsules. *Seeds* 2.

252. PYRUS. *Cal.* superior, 5-cleft. *Pet.* 5. *Apple* with 2—5 membranous 2-valved capsules. *Seeds* 2.

253. SPIRÆA. *Cal.* inferior, 5-cleft. *Pet.* 5. *Capsules* of 2 membranous valves. *Seeds* numerous.

Order III. POLYGYNIA. Pist. numerous.

254. ROSA. *Cal.* 5-cleft; tube finally pulpy, lined with hairs, and with numerous bristly *seeds.*

255. RUBUS. *Cal.* 5-cleft. *Berry* superior, compound, deciduous. *Recept.* spongy, permanent.

258. TORMENTILLA. *Cal.* 8-cleft. *Pet.* 4. *Seeds* naked, beardless. *Recept.* dry, obsolete.

260. DRYAS. *Cal.* 8- or 10-cleft. *Pet.* 5 or 8. *Seeds* each with a feathery tail.

259. GEUM. *Cal.* 10-cleft. *Pet.* 5. *Seeds* each with a bent hooked tail. *Recept.* columnar.

256. FRAGARIA. *Cal.* 10-cleft. *Seeds* naked, even, on the surface of a mostly pulpy, deciduous *receptacle.*

261. COMARUM. *Cal.* 10-cleft. *Seeds* naked, even, on the surface of a spongy hairy permanent *receptacle.*

257. POTENTILLA. *Cal.* 10-cleft. *Seeds* naked, rugged, beardless. *Recept.* dry, obsolete.

Spiræa 2, 3.

ICOSANDRIA MONOGYNIA.

250. PRUNUS. Plum and Cherry.

Linn. Gen. 249. *Juss.* 341. *Fl. Br.* 526. *Tourn. t.* 398. *Lam. t.* 432. *Gærtn. t.* 93.

Cerasus. *Tourn. t.* 401.

Nat. Ord. *Pomaceæ.* Linn. 36. *Rosaceæ.* Juss. 92. *N.* 251—253 the same.

Cal. inferior, of 1 leaf, bell-shaped, deciduous, with 5 obtuse concave marginal segments. *Pet.* 5, roundish, concave, spreading, larger than the segments of the calyx, their short claws proceeding from its rim. *Filam.* 20—30, awl-shaped, nearly as long as the corolla, from the rim of the calyx within the petals. *Anth.* short, of 2 round lobes. *Germ.* superior, roundish. *Style* thread-shaped, terminal, the length of the stamens. *Stigma* orbicular, peltate. *Drupa* roundish or elliptical. *Nut* very hard, somewhat compressed, of 1 cell and 2 more or less distinct valves, prominent at the margin, with an intermediate furrow; kernel solitary, suspended from the top.

Trees, or *shrubs*, sometimes thorny; with alternate, stalked, stipulated, simple, serrated and glandular *leaves.* *Fl.* white, on simple or compound stalks. *Fr.* acid and austere, greatly improved and varied by culture, but not of the most wholesome quality. The even surface of the *nut* is supposed to distinguish *Prunus* from *Amygdalus*; that of the latter being full of superficial sinuses and chan-

nels. But *P. Padus* differs a little from the rest, in having a rugged, if not a sinuous, *nut*.

1. P. *Padus*. Bird Cherry.

Flowers in cylindrical pendulous clusters. Leaves deciduous, with two glands on the under side at the base.

P. Padus. *Linn. Sp. Pl.* 677. *Willd. v.* 2. 984. *Fl. Br.* 526. *Engl. Bot. v.* 20. *t.* 1383. *Dicks. H. Sicc. fasc.* 18. 15. *Hook. Scot.* 150. *Fl. Dan. t.* 205. *Ehrh. Arb.* 53.

Padus n. 1086. *Hall. Hist. v.* 2. 30.

P. Theophrasti. *Dalech. Hist.* 312. *f.*

Cerasus avium nigra et racemosa. *Raii Syn.* 463. *Ger. Em.* 1504. *f.*

C. racemosa sylvestris, fructu non eduli. *Bauh. Pin.* 451.

Pseudoligustrum. *Dod. Pempt.* 777. *f.*

In woods and hedges.

Common in the North of England, and in Scotland. About Watton and Dereham, Norfolk, plentiful.

Tree. *May.*

Of the ordinary stature of a plum or cherry tree, with a hard close-grained wood, and smooth even *branches*. *Leaves* obovate, pointed, finely serrated, veiny, smooth, somewhat glaucous; their scent, when bruised, resembling rue. At their base underneath are two small glands. *Stipulas* in pairs at the insertion of each *footstalk*, linear, serrated, soon falling off. *Fl.* pure white, in copious, long, drooping clusters, making an elegant appearance in spring, but scarcely lasting a fortnight. *Fr.* small, black, austere and bitter, with a large corrugated *nut*. Birds of several kinds soon devour this fruit, which is nauseous, and probably dangerous to mankind; though perhaps, like that of the Cherry-laurel, not of so deadly a quality as the essential oil, or distilled water, of the leaves.

2. P. *Cerasus*. Wild Cherry-tree.

Flowers in nearly sessile umbels. Leaves ovate-lanceolate, folded flat in the bud; somewhat downy beneath.

P. Cerasus. *Linn. Sp. Pl.* 679. *Willd. v.* 2. 991. *Fl. Br.* 526. *Engl. Bot. v.* 10. *t.* 706.

Cerasus n. 1082. *Hall. Hist. v.* 2. 28.

α. Prunus avium. *Linn. Fl. Suec. ed.* 2. 165.

P. rubella. *Ehrh. Arb.* 114.

P. varia. *Ehrh. Beitr. v.* 7. 127.

Cerasus sylvestris fructu rubro. *Raii Syn.* 463.

C. vulgaris. *Ger. Em.* 1502. *f.*

C. sativa, fructu rotundo, rubro et acido. *Duham. Arb. v.* 1. 148. *t.* 56.

Cerasa austera. *Matth. Valgr. v.* 1. 213. *f.*

C. acidissima, sanguineo succo. *Bauh. Pin.* 450.

β. Cerasus sylvestris, fructu minimo cordiformi. *How Phyt.* 25. *Raii Syn.* 463.

Merry-tree, of the Cheshire peasants. *How ibid.*

γ. Cerasus sylvestris septentrionalis, fructu parvo serotino. *Raii Syn.* 463. *ed.* 2. 302.

δ. Prunus avium. *Linn. Sp. Pl.* 680 ? *With.* 456.

P. Cerasus γ. *Huds.* 213.

P. nigra. *Ehrh. Arb.* 73.

P. nigricans. *Ehrh. Beitr. v.* 7. 126.

Cerasus sylvestris, fructu nigro. *Raii Syn.* 463.

C. nigra. *Ger. Em.* 1505. *f.* bad.

ε. Corone or Coroun Cherry. *Mill. Dict.*

In woods and hedges.

β. In various parts of Cheshire ; Mr. Stonehouse. *How.* Also in Lancashire and Westmoreland. *Ray.*

γ. On the banks of the Tees, about Bernard's-castle, plentifully. *Johnson.*

δ. In the midland and eastern counties.

ε. About Bergh-Apton, Norfolk, and in Hertfordshire.

Tree. *May.*

Branches round, with a polished ash-coloured bark, whose cuticle splits horizontally. *Leaves* ovate, or ovate-lanceolate, pointed, veiny, with copious glandular serratures, and at the base 2 unequal glands, sometimes removed to the *footstalk;* the upper surface smooth ; the under more or less hairy, especially about the veins. These hairs disappear in the cultivated varieties, and though mentioned by Linnæus as the mark of his *P. avium,* do not form a specific distinction. It is hard indeed to define species or varieties in plants so generally cultivated, and so widely propagated by birds, and other natural or artificial means; being meanwhile subject to every possible accident of cross impregnation. The *flowers* in all the kinds are white, on long simple stalks, but few together, in umbels produced by different buds from the foliage. *Fruit* almost globular ; in α, from which the common Kentish Cherry is but one remove, red, acid, and austere ; in β said to be smaller and heart-shaped ; in γ small, round, red, not ripe before September ; in δ rather small, roundish, black, and sweet ; in ε larger and of a better flavour, but of the same colour, to which its name from *Corone,* a Crow, appears to allude. The *leaves* in every variety are simply folded flat while young, by which Cherries differ from the Bullace tribe. *Stipulas* and *bracteas* pale, with glandular teeth or fringes, deciduous. *Nut* hard, very smooth.

*3. P. *domestica.* Wild Plum-tree.

Flower-stalks solitary or in pairs. Leaves lanceolate-ovate; convolute while young. Branches without thorns.

P. domestica. *Linn. Sp. Pl.* 680. *Willd. v.* 2. 995. *Fl. Br.* 527. *Engl. Bot. v.* 25. *t.* 1783. *Woodv. Med. Bot. t.* 85. *Hook. Scot.* 150. *Ger. Em.* 1497. *f.*

P. communis *δ*. *Huds.* 212.

P. curvata. *Ehrh. Arb.* 144.

P. n. 1079. *Hall. Hist. v.* 2. 27.

P. sativa. *Fuchs. Hist.* 403. *f.*

In woods and hedges, probably escaped from gardens.

At Twineham, Sussex, apparently wild. *Mr. Borrer.*

Tree. *May.*

A moderate-sized tree, without thorns. *Leaves* elliptic-oblong, copiously serrated, rarely glandular at the base; hairy when young, especially underneath; their edges coiled inward in the bud. *Stipulas* linear, bordered with glands, deciduous. *Flower-stalks* much shorter than in the Cherry, most frequently in pairs. *Fl.* snow-white. *Fruit* rather oblong, seldom quite globular, its colour and flavour very variable. The specimen sent by Mr. Borrer was almost round, dark purple, with a blue efflorescence. Mrs. Evelyn has communicated to Mr. Lambert, from Kent, flowering specimens of "a wild yellow plum, excellent for making jelly only," known to the London confectioners. These specimens approach Ehrhart's *P. curvata;* but the branches are more downy, and we know nothing of his fruit. Whether all our cultivated Plums may formerly have originated from the *P. insititia* hereafter described, its thorns having disappeared by culture, like those of the Pear-tree, is a question which no botanist perhaps can ever solve. As to its varieties, Gerarde declares that "to write of Plums particularly would require a peculiar volume, and yet the end not be attained unto, nor the stock or kindred perfectly known, neither to be distinguished apart." He adds that each country has an abundance of its own peculiar varieties. Hence I conceive it scarcely possible to meet with the *P. domestica* in a perfectly natural state.

4. P. *insititia.* Wild Bullace-tree.

Flower-stalks in pairs. Leaves lanceolate-ovate; convolute while young; downy beneath. Branches thorny at the end.

P. insititia. *Linn. Sp. Pl.* 680. *Willd. v.* 2. 996. *Fl. Br.* 528. *Engl. Bot. v.* 12. *t.* 841. *Hook. Scot.* 150.

P. n. 1081. *Hall. Hist. v.* 2. 28.

P. sylvestris major. *Raii Syn.* 462. *Duham. Arb. v.* 2. 184. *t.* 41.

β. P. sylvestris, fructu majore albo. *Raii Syn.* 462.

γ. P. sylvestris, fructu rubro, acerbo et ingrato. *Raii Syn.* 463.

In hedges and groves.

Tree. *April.*

A small tree, with irregularly spreading, round *branches,* each

for the most part, tipped with a sharp straight thorn. *Leaves* from lateral, alternate, originally axillary, buds, and becoming likewise alternate, on the young branches protruded from thence, broadly lanceolate, rather tapering at each end, sometimes elliptical, serrated, downy beneath, at least when young, in which state their edges are incurved. Scales of the *buds* imbricated, concave, entire, brown; the innermost fringed, greenish. *Fl.* from different buds near the others, in pairs, on simple stalks not much longer than the calyx. *Petals* pure white. *Fruit* globular, very sour and austere, usually black; in β yellowish, or waxy with a red tint; in γ said to be red. There are several varieties of the black sort, differing in size and flavour, some of them very good even in a recent state, and all more or less excellent when dressed.

5. P. *spinosa*. Sloe, or Black-thorn.

Flower-stalks solitary. Leaves lanceolate, smooth. Branches thorny at the end.

P. spinosa. *Linn. Sp. Pl.* 681. *Willd. v.* 2. 997. *Fl. Br.* 528. *Engl. Bot. v.* 12. *t.* 842. *Woodv. Med. Bot. t.* 84. *Hook. Scot.* 151. *Fl. Dan. t.* 926.

P. n. 1080. *Hall. Hist. v.* 2. 27.

P. sylvestris. *Bauh. Pin.* 444. *Raii Syn.* 462. *Ger. Em.* 1497. *f. Trag. Hist.* 1016. *f. Fuchs. Hist.* 404. *f. Ic.* 229. *f. Matth. Valgr. v.* 1. 241. *f. Camer. Epit.* 165. *f.*

In hedges and thickets common.

Shrub. *March, April.*

A rigid bushy shrub, with sharp spinous *branches;* the bark blackish, a little glaucous and polished. *Leaves* much smaller than the last, scarcely an inch long; the earlier ones obovate; all smooth, except when very young. *Fl.* pure white, copious, earlier than the leaves, solitary, on short simple stalks, each from a small bud at the bases of the leaf-buds. *Calyx* spreading. *Pet.* with scarcely any claws. *Fr.* globular, black, rather larger than a black currant, acid, astringent, and very austere, not eatable except when baked or boiled with a large proportion of sugar. The juice, inspissated over a slow fire, is a substitute for the Egyptian *Acacia*, or Indian *Catechu*. In some form or other, this juice is said to be used in factitious or adulterated Port wine. The leaves also are reckoned among the adulterations of tea in England. They possess, in fact, a portion of that peculiar aromatic flavour which exists in *Spiræa Ulmaria, p.* 368, the American *Gaultheria*, and some other plants, and which resembles the more delicate perfume of green tea. A water distilled from the blossoms of the Sloe is said to be used as a medicinal vehicle in Switzerland and Germany; but it surely is not very safe or wholesome.

ICOSANDRIA PENTAGYNIA.

251. MESPILUS. Hawthorn and Medlar.

Linn. Gen. 251. *Juss.* 335. *Fl. Br.* 529. *Tourn. t.* 410. *Lam. t.* 436. *Gærtn. t.* 87. *Lindl. Tr. of L. Soc. v.* 13. 99.
Cratægus. *Linn. Gen.* 250. *Juss.* 335. *Lam. t.* 433. *Lindl. ibid.* 105.

Nat. Ord. see n. 250.

Cal. superior, of 1 leaf, concave, in 5 deep permanent segments. *Pet.* 5, nearly orbicular, concave, wavy, with short broadish claws proceeding from the rim of the calyx. *Filam.* 20, awl-shaped, incurved, from the rim of the calyx within the petals. *Anth.* roundish, of 2 lobes. *Germ.* inferior, turbinate or roundish. *Styles* from 2 to 5, rarely solitary, thread-shaped, erect. *Stigm.* capitate, peltate. *Apple* globose, or somewhat depressed, concave at the summit, crowned with the either converging or reflexed calyx, of from 2 to 5 bony cells, or capsules, each of one valve, and not bursting except in germination. *Seeds* 2 in each cell, erect, obovate, obtuse, pointed at the base, where they are attached.

Trees, generally thorny, with simple, often lobed, deciduous, alternate, stalked *leaves*. *Stipulas* various. *Fl.* solitary or corymbose, white, often fragrant. *Bracteas* deciduous. *Fruit* pulpy or mealy.

I readily concur with Mr. Lindley, in his valuable paper on the natural order of *Pomaceæ*, Tr. of L. Soc. v. 13. 88—106, in denominating this fruit a *pomum*, or apple; rather than a *bacca*, berry, with Linnæus and Gærtner. I wish moreover to restrict the term *drupa* to a fleshy fruit with a *solitary nut*. See *Grammar* 23. The genus *Pyrus*, as I understand it, exhibits a gradation of membranous and cartilaginous cells in the *apple*, some of them close, some valvular; and in *Mespilus* the same part is similarly constructed, though of a harder substance. Each *seed*, in both, has a double skin. It is perhaps to be wished that *Cratægus* could be kept separate from *Mespilus*, but I cannot perceive the fruit to be more open, or the cells more exposed, in one than the other. With respect to habit, inflorescence, and the leafy *calyx*, *Cratægus parvi-*

folia of Aiton, Pursh, &c., unites these two genera, to say nothing of other species. Nobody can be more aware than I am of the difficulties my ingenious friend just quoted has here had to encounter, or of the skill with which he has met them, though we may differ in opinion about some of his genera.

1. M. *Oxyacantha*. Hawthorn, Whitethorn, or May.

Thorny. Leaves obtuse, variously three-lobed, serrated, smooth. Styles about two.

M. Oxyacantha. *Gærtn. v.* 2. 43. *t.* 87. *Fl. Br.* 529. *Engl. Bot. v.* 35. *t.* 2504. *Hull. ed.* 2. 145. *Relh.* 190.
M. n. 1087. *Hall. Hist. v.* 2. 30.
M. apii folio sylvestris spinosa, sive Oxyacantha. *Bauh. Pin.* 454. *Raii Syn.* 453.
Cratægus Oxyacantha. *Linn. Sp. Pl.* 683. *Willd. v.* 2. 1005. *Huds.* 214. *With.* 459. *Hook. Scot.* 151. *Fl. Dan. t.* 634. *Jacq. Austr. t.* 292. *f.* 2. *Ehrh. Arb.* 34.
C. monogyna. *Jacq. Austr. t.* 292. *f.* 1. *Sibth.* 156. *Abbot* 108. *Purton* 235. *Ehrh. Arb.* 44.
Oxyacanthus. *Ger. Em.* 1327. *f.*
Acuta spina. *Matth. Valgr. v.* 1. 148. *f.* *Camer. Epit.* 85. *f.*
Sorbus aculeata. *Cord. Hist.* 176. *f.*

β. Mespilus apii folio sylvestris spinosa, folio et fructu majore. *Dill. in Raii Syn.* 454.
γ. Glastonbury Thorn. *With.* 459.

In thickets, copses, hedges, and high open fields, every where.
Shrub or small tree. *May, June.*
The *wood* is very hard, with a smooth blackish *bark*. *Branches* with lateral, sharp, awl-shaped thorns. *Leaves* alternate, deciduous, on longish slender stalks, smooth, deep green, veiny, an inch or two long; tapering at the base; more or less deeply 3-lobed, or 5-lobed, cut and serrated, wedge-shaped or rounded. *Stipulas* crescent-shaped, cut, deciduous, variable in size; in γ according to Dr. Withering very large. *Fl.* corymbose, terminal, on smooth stalks here and there glandular, sweet-scented, white, occasionally pink or almost scarlet. *Anth.* pink, changing to black. *Styles* 1 or 2 in different flowers of the same bunch, sometimes 3. *Fruit* mealy, insipid, dark red, occasionally yellow; its cells as many as the styles, furrowed externally and very hard. The value of this plant for fences is well known. It is raised abundantly from seed, and bears clipping to any extent. Birds are fed with the fruit all winter long.
Jacquin's *C. Oxyacantha* has rounder broader leaves than the more common variety, his *monogyna*, represented in *Engl. Bot.* But repeated examination has satisfied me, and many other English botanists, that flowers with a single style are equally frequent

in both, though by no means universal in either. I suspect the older trees bear the rounder and less divided leaves.

2. M. *germanica.* Common Medlar.

Leaves lanceolate, a little downy. Flowers solitary, nearly sessile, terminal. Styles five.

M. germanica. *Linn. Sp. Pl.* 684. *Willd. v.* 2. 1010. *Fl. Br.* 530. *Engl. Bot. v.* 22. *t.* 1523. *Gærtn. v.* 2. 43. *t.* 87. *Ehrh. Arb.* 154. *Duham. Arb. v.* 2. 14. *t.* 4.

M. n. 1094. *Hall. Hist. v.* 2. 33.

Mespilus. *Dod. Pempt.* 801. *f.* *Trag. Hist.* 1014. *f.* *Dill. in Raii Syn.* 453.

M. sativa. *Ger. Em.* 1453. *f.*

M. vulgaris. *Camer. Epit.* 154. *f.*

M. altera. *Matth. Valgr. v.* 1. 230. *f.*

In hedges.

In all the hedges about Minshull, Cheshire; Mr. Du Bois. *Dillenius.* About Ashburnham, Sussex, truly wild. *Rev. J. Davies.*

Tree. *May.*

Branches spreading; thorny in a wild state. *Leaves* deciduous, alternate, spreading, on short stalks, oblong-lanceolate, acute, wavy, generally entire, single-ribbed, veiny, 4 or 5 inches long; most downy beneath. *Fl.* solitary at the end of each branch, on short downy stalks, large, with white undulated *petals*, inodorous. *Cal.* with long, narrow, downy, permanent segments. *Styles* 5, club-shaped, encompassed at the base with an elevated ring arising from the *floral receptacle. Fruit* depressed, concave at the top, somewhat hairy, austere, not eatable till it is mellowed by keeping. Cultivation has produced many varieties, differing in size and flavour. The thorns disappear by culture, and are not to be seen in gardens, though I have noticed them on foreign wild specimens, and my late friend Mr. Davies, of Trin. Coll. Cambridge, observed them in Sussex. See also the wooden cuts of old authors.

252. PYRUS. Pear, Apple and Service.

Linn. Gen. 251. *Juss.* 335. *Fl. Br.* 531. *Tourn. t.* 404. *Lam. t.* 435. *Gærtn. t.* 87.

Sorbus. *Linn. Gen.* 250. *Juss.* 335. *Lam. t.* 434.

Malus. *Juss.* 334. *Tourn. t.* 406.

Nat. Ord. see n. 250.

Cal. superior, of 1 leaf, concave, in 5 deep, spreading, mostly permanent segments. *Pet.* 5, roundish, concave, much larger than the calyx, and proceeding from its rim, with short claws. *Filam.* 20, from the rim of the calyx within the petals, awl-shaped, shorter than the corolla. *Anth.*

oblong, of 2 lobes. *Germ.* inferior, roundish. *Styles* from 2 or 3 to 5, thread-shaped, about the length of the stamens. *Stigmas* simple, or bluntish. *Apple* roundish or somewhat oblong, umbilicated, fleshy, of as many cartilaginous or membranous bivalve cells as there are styles. *Seeds* 2 in each cell, erect, obovate, flattened at one side.

Trees, generally without thorns. *Leaves* alternate, stalked, simple or pinnate, entire or serrated. *Fl.* white or reddish, corymbose, umbellate, or panicled. *Fruit* acid and austere, greatly improved by culture, very various in size, colour and figure.

Gærtner first ventured to unite the above Linnæan genera, including the Quince, *Cydonia*; but the latter having very numerous horizontal seeds, may perhaps form a genus along with *Pyrus japonica*, whose fruit being erroneously described by Thunberg, as having 5 valves, caused Mr. Lindley to make it distinct. But this fruit is no more valvular than an apple, and greatly resembles a quince in odour. The cells of the fruit in *Pyrus* vary, even in one species, the common Pear, from cartilaginous to membranous, and gradations in texture from one species to another are so insensible, that they baffle all generic distinction. The bony cells of *Mespilus*, each of one piece, and not splitting asunder, perhaps sufficiently mark that genus.

1. P. *communis*. Wild Pear-tree. Iron Pear.

Leaves simple, ovate, serrated. Flower-stalks corymbose.

P. communis. *Linn. Sp. Pl.* 686. *Willd. v.* 2. 1016. *Fl. Br.* 531. *Engl. Bot. v.* 25. *t.* 1784. *Ehrh. Arb.* 64.
P. Achras. *Gærtn. v.* 2. 44. *t.* 87.
P. n. 1096. *Hall. Hist. v.* 2. 35.
P. sylvestris. *Dod. Pempt.* 800. *f.* *Bauh. Pin.* 439.
Pyrum strangulatorium majus. *Ger. Em.* 1457. *f.*
Pyra. *Camer. Epit.* 152. *f.*
Pyraster, seu Pyrus sylvestris. *Raii Syn.* 452.

In woods and hedges.
Tree. *April, May.*

A tall handsome tree; the *branches* first erect, then curved downwards, and pendulous; in a truly wild state thorny. *Leaves* ovate, or elliptic-oblong; when young downy beneath, and copiously fringed with soft white hairs; smooth and shining when at their full growth, deciduous. They lose their serratures by culture. *Stipulas* linear, soon falling. *Flower-stalks* terminal, downy, corymbose. *Fl.* copious, snow-white, with pink *anthers*.

Styles 5, with acute *stigmas*. *Fruit* obovate, generally hard and austere, but liable, even in a wild state, to many varieties, and sometimes eatable. The cultivated sorts, as every body knows, are innumerable. The wood is light, of a fine grain, and tolerably hard.

2. P. *Malus*. Wild Apple-tree. Crab-tree.

Leaves simple, serrated. Flowers in a simple sessile umbel.

P. Malus. *Linn. Sp. Pl.* 686. *Willd. v.* 2. 1017. *Fl. Br.* 531. *Engl. Bot. v.* 3. *t.* 179. *Hook. Scot.* 151. *Ehrh. Pl. Off.* 405.
P. n. 1097. *Hall. Hist. v.* 2. 35.
Malus sylvestris. *Raii Syn.* 452. *Ger. Em.* 1461. *f.*
Mala. *Camer. Epit.* 141. *f.*

In woods, hedges and parks.
Tree. *May.*
Of more humble stature than the preceding, with spreading, irregular, more horizontal *branches*, altogether destitute of thorns; the leafy flowering shoots short and rugged. *Leaves* more or less elliptical, seldom losing all their serratures; the young ones downy beneath. *Stipulas* linear, combined with the *footstalks*. *Fl.* umbellate, not corymbose, beautifully variegated with white and rose-colour, and slightly fragrant. *Stalks* and *calyx* more or less cottony. *Styles* 5. *Fruit* with 5 cartilaginous bivalve cells, globose, umbilicated at the bottom as well as the top, yellowish with a tinge of red, very acid and astringent; yet there are several varieties among the wild crabs, some of which are of excellent flavour when baked with plenty of sugar, even surpassing many cultivated apples. The expressed juice of any of them, called verjuice, is used to cure sprains and scalds, being often kept by good housewives in the country for that purpose.

3. P. *torminalis*. Wild Service-tree.

Leaves simple, somewhat heart-shaped, serrated, seven-lobed; the lower lobes spreading. Flower-stalks corymbose, branched.

P. torminalis. *Fl. Br.* 532. *Comp.* 77. *Ehrh. Beitr. v.* 6. 92. *Willd. Sp. Pl. v.* 2. 1021.
Cratægus torminalis. *Linn. Sp. Pl.* 681. *Huds.* 214. *With.* 458. *Sibth.* 156. *Engl. Bot. v.* 5. *t.* 298. *Fl. Dan. t.* 798. *Jacq. Austr. t.* 443. *Mill. Illustr. t.* 42. *Purton* 235.
C. Theophrasti. *Dalech. Hist.* 99. *f.* 332. *f.*
Mespilus n. 1088. *Hall. Hist. v.* 2. 31.
M. apii folio sylvestris non spinosa, seu Sorbus torminalis. *Raii Syn.* 453.
Sorbus torminalis. *Ger. Em.* 1471. *f.* *Trag. Hist.* 1010. *f.* *Cord. Hist.* 176, *same f.* *Matth. Valgr. v.* 1. 239. *f.* *Camer. Epit.* 162. *f.*

In woods and hedges, chiefly in the midland and southern counties.
Tree. *April, May.*
Of slow growth, but often of considerable size; the *wood* hard; *bark* smooth. *Leaves* deciduous, on long stalks, broad, smooth, firm, dark-green, veiny, sharply serrated, and with 7, sometimes only 5, acute lobes, of which the lower pair are broadest and most distant. *Stipulas* none. *Fl.* white, numerous, in large terminal, corymbose, downy panicles. *Styles* 3, 4 or 5, in flowers of the same panicle, and the cells of the little brown dotted apples answer to them in number. This fruit, not much larger than that of the Hawthorn, becomes agreeably acid and wholesome, after the frost has touched it, and may sometimes be seen in the London fruit-shops. Ray prefers its flavour to the True Service, which latter is now become obsolete.

4. P. *domestica*. True Service-tree.

Leaves pinnate; leaflets uniform; downy beneath; serrated towards the point. Flowers panicled. Fruit obovate.

P. domestica. *Engl. Bot. v.* 5. *t.* 350. *Fl. Br.* 532. *Comp.* 77. *Ehrh. Beitr. v.* 6. 95. *Arb.* 155.
P. Sorbus. *Gærtn. v.* 2. 45. *t.* 87.
Sorbus domestica. *Linn. Sp. Pl.* 684. *Willd. v.* 2. 1009. *Huds.* 215. *With.* 460. *Crantz Stirp. fasc.* 2. 48. *t.* 2. *f.* 3. *Jacq. Austr. t.* 447. *Matth. Valgr. v.* 1. 237. *f. Lob. Ic. v.* 2. 106. *f.*
Sorbus. *Raii Syn.* 452. *Ger. Em.* 1471. *f. Trag. Hist.* 1012. *f. Dalech. Hist.* 330. *f.*
Sorbum ovatum. *Fuchs. Hist.* 576. *f.*
Mespilus n. 1092. *Hall. Hist. v.* 2. 33.

In mountainous woods, very rare.
In the mountainous parts of Cornwall, in many places, according to Mr. Moyle and Mr. Stevens; also in the moorlands of Staffordshire, according to Dr. Plot. *Ray.* In the middle of Wire forest, near Bewdley. *Mr. Pitts.* This last is only a solitary tree. *Earl of Mountnorris.*
Tree. *May.*
A large tree, of extremely slow growth, not bearing fruit or blossoms till it arrives at a great age. The *wood* is very hard. *Leaves* deciduous, alternate, pinnate, of about 7 or 9 pair of sessile *leaflets* with an odd one, all nearly uniform in size and shape, oblong, unequal at the base, acute, bright green, veiny, above an inch long, unequally and sharply serrated from about the middle to the point; smooth above; clothed underneath with deciduous cottony down. *Stipulas* linear, deciduous. *Panicles* terminal, rather oblong, partly leafy, their branches repeatedly forked, downy, with a few short, awl-shaped, deciduous *bracteas*. *Fl.* the size of Hawthorn, cream-coloured. *Cal.* woolly. *Styles* always 5, with blunt, spreading, concave

stigmas. Fruit obovate, above an inch in length, reddish, spotted, extremely austere, causing a most painful and durable irritation in the throat if tasted in an unripe state; but when mellowed by frost or keeping, it becomes brown, soft, and eatable, resembling a Medlar, though to most people less agreeable. Gærtner always found rudiments of 2 *seeds* in each cell, though one only arrives at maturity. It is precisely a *Pyrus*, according to the original idea of that genus; nor are numerous species wanting, with leaves more or less completely pinnate.

5. P. *aucuparia*. Quicken-tree, or Mountain Ash. Roan-tree.

Leaves pinnate; leaflets uniform, serrated, smooth. Flowers corymbose. Styles about three. Fruit globular.

P. aucuparia. *Gærtn. v.* 2. 45. *t.* 87. *Fl. Br.* 533. *Ehrh. Beitr. v.* 6. 94. *Arb.* 54. *Hook. Scot.* 151.

Sorbus aucuparia. *Linn. Sp. Pl.* 683. *Willd. v.* 2. 1008. *Huds.* 215. *Engl. Bot. v.* 5. *t.* 337. *Purton* 236. *Mill. Illustr. t.* 43. *Fl. Dan. t.* 1034. *Crantz Stirp. fasc.* 2. 49. *t.* 1. *f.* 4.

S. sylvestris, foliis domesticæ similis. *Bauh. Pin.* 415. *Raii Syn.* 452.

S. sylvestris. *Matth. Valgr. v.* 1. 238. *f. Camer. Epit.* 161. *f. Dalech. Hist.* 332. *f.*

S. sylvestris, sive Fraxinus bubula. *Ger. Em.* 1473. *f.*

S. torminalis. *Dalech. Hist.* 99. *f.*

Mespilus n. 1091. *Hall. Hist. v.* 2. 32.

Fraxinea arbor. *Trag. Hist.* 1008. *f.* 1009.

Ornus. *Dod. Pempt.* 834. *f.*

In mountainous woods, and hedges.

Tree. *May.*

A handsome tree, of slow growth, with a tough, close-grained, not very hard *wood*; the *branches* smooth, round, greyish. *Leaves* smaller than the last, being scarcely a span long; their *leaflets* narrower, more firm, downy beneath, not cottony, when young; afterwards smooth on both sides. *Panicles* corymbose, broad and flattish, with downy stalks. *Fl.* white, numerous, with a slight almond-like scent. *Pet.* very concave. *Styles* 3, or 4, with small obtuse *stigmas*. *Apples* like berries, scarlet, globose, very juicy, sour and bitter, of as many cells as there are styles, the sides of which are pliant and leathery, not cartilaginous or rigid. *Seeds* 2 in each cell, though only 1 in general becomes perfect. Of the strict generic affinity between this and the last, notwithstanding the different consistence of the cells of their fruits, there can be no doubt.

Many superstitious qualities are attributed by the Scottish Highlanders to their Roan-tree, which is especially famous as a protection against charms and witchcraft. The fruit, soaked in

water to extract some of its bitterness, and then boiled with sugar, makes a kind of jelly, which is tolerably flavoured. A spirit is also reported by Lightfoot to be distilled from these berries. Birds of the Thrush kind devour them with avidity; and our Mountain Ash trees, planted for ornament in most parts of England, are thus unfortunately stripped, early in autumn, of their produce.

6. P. *pinnatifida*. Bastard Mountain Ash.

Leaves deeply pinnatifid, or half pinnate; downy beneath. Flowers corymbose. Styles about three.

P. pinnatifida. *Ehrh. Beitr. v.* 6. 93. *Arb.* 145. *Engl. Bot. v.* 33. *t.* 2331. *Comp.* 77.

P. hybrida. *Fl. Br.* 534; *but not of Willd. Sp. Pl. v.* 2. 1022.

Sorbus hybrida. *Linn. Sp. Pl.* 684. *Linn. fil. Fasc.* 1. *t.* 6. *Fl. Dan. t.* 301.

Cratægus Aria γ, Fennica. *Linn. Suec. ed.* 2. 167.

On mountains in the western isles of Scotland.

In rocky situations on Cairn na Callich, and other mountains, at the north end of the isle of Arran. *Mr. J. Mackay.*

Tree. *May.*

A moderate-sized tree, with smooth grey *branches*, hoary when young. *Leaves* alternate, crowded about the extremities, stalked, oblong, acute, serrated, lobed, and towards the base often deeply pinnatifid; smooth above; white and finely cottony beneath. *Stipulas* smooth, awl-shaped, attached to the footstalks, but deciduous. *Fl.* cymose, cream-coloured, much like those of the last, or rather of the following, species. *Styles* 3 or 4, and the cells of the *fruit*, which are soft and pliant like those of the Mountain Ash, agree with them in number. Whether this be a mere variety of the *P. Aria* hereafter described, or, as Linnæus thought, a mule between that tree and the Mountain Ash, it is regularly propagated by seed, and a frequent decoration of modern gardens and shrubberies. A decided variety of *P. Aria*, slightly pinnatifid, growing on Castle Dinas y brān, was taken by Mr. Hudson for the Linnæan *Sorbus hybrida*. Dr. Pratinton has sent me this from the original spot, and it obviously connects the plant before us with the following; see *P. Aria* β.

7. P. *Aria*. White Beam-tree. White Wild Pear-tree.

Leaves simple, elliptical, cut, serrated, scored; downy beneath. Flowers corymbose. Styles about two.

P. Aria. *Fl. Br.* 534. *Engl. Bot. v.* 26. *t.* 1858. *Winch Guide v.* 1. 47. *Hook. Scot.* 152. *Ehrh. Beitr. v.* 4. 20. *Arb.* 84. *Willd. Sp. Pl. v.* 2. 1021.

Cratægus Aria. *Linn. Sp. Pl.* 681. *Huds.* 214. *Fl. Dan. t.* 302. *Ehrh. Pl. Off.* 375.
Mespilus n. 1089. *Hall. Hist. v.* 2. 31.
M. alni folio subtùs incano, Aria Theophrasti dicta. *Raii Syn.* 453.
Sorbus Aria. *Crantz Stirp. fasc.* 2. 46. *t.* 2. *f.* 2.
S. alpina. *Bauh. Hist. v.* 1. 65. *f.*
Aria. *Dalech. Hist.* 202. *f.*
A. Theophrasti. *Ger. Em.* 1327. *f.*
β. Pyrus intermedia. *Ehrh. Beitr. v.* 4. 20. *Arb.* 94. *Willd. Sp. Pl. v.* 2. 1021.
P. hybrida. *Fl. Br.* 534.
Cratægus Aria β. *Linn. Sp. Pl.* 681.
Sorbus hybrida. *Huds.* 216. *With.* 461.

In mountainous woods on a chalky soil, and the fissures of limestone rocks.

β. On the walls of Castle Dinas y Brān, Denbighshire. *Dr. Pratinton.*

Tree. *May.*

A tree of a moderate size, whose young *branches* are very white and downy; the old bark reddish brown, and smooth; the wood very hard. *Leaves* on downy stalks, elliptic-oblong, doubly serrated; sometimes with several marginal lobes, which is the character of β, but not pinnatifid at the lower part as in the preceding; the upper surface smooth, of a fine green; the under snow-white, and downy, marked with several straight, prominent, transverse ribs, having correspondent furrows above. *Stipulas* a slight, membranous, smooth dilatation, at each side of the bottom of the footstalks, generally elongated into lanceolate appendages, or real *stipulas*, which soon fall off. *Fl.* white, in large corymbose compound *tufts*, with downy stalks. *Bracteas* linear, smooth, deciduous. *Styles* 2, often 3 or 4. *Fruit* with as many coriaceous cells, globular, scarlet, dotted, mealy, acid and astringent. *Seeds* 2 in each cell.

Ehrhart's authentic specimen of β accords with my Welsh ones, differing from the common *Aria* in having rather deeper marginal notches, or lobes; but the *leaves* are not truly pinnatifid. Willdenow declares it to differ in its whole habit from *P. Aria*, which I can find nothing to confirm. There can scarcely be found a tree of the *Aria* on which some leaves do not answer to this variety.

253. SPIRÆA. Spiræa, Dropwort and Meadow-sweet.

Linn. Gen. 253. *Juss.* 339. *Fl. Br.* 535. *Tourn. t.* 389. *Lam. t.* 439. *Gærtn. t.* 69.
Filipendula. *Tourn. t.* 150.
Ulmaria. *Tourn. t.* 141.

Nat. Ord. see n. 250.

Cal. inferior, of 1 leaf, nearly flat at the base; with 5 acute, permanent, marginal segments. *Pet.* 5, roundish or oblong, attached by their claws to the rim of the calyx. *Filam.* more than 20, from the rim of the calyx, capillary, wavy, nearly as long as the corolla. *Anth.* roundish, of 2 lobes. *Germ.* 5 or more, superior, ovate or oblong, compressed, each terminating in a short stout *style*. *Stigmas* spreading, obtuse. *Caps.* as many as the germens, oblong, pointed, more or less compressed, each of 2 rather membranous valves, and 1 cell. *Seeds* few, small, oblong, pendulous from the outer margin of each valve.

The seed-vessels are bivalve *capsules*, not *follicles* as they have recently been termed. The number of *pistils* is various.

Plants either shrubby or herbaceous, generally smooth. *Leaves* alternate, simple or compound, entire, notched, or serrated. *Inflorescence* various. *Fl.* white, or reddish. *Quality* astringent.

1. S. *salicifolia*. Willow-leaved Spiræa.

Leaves elliptic-lanceolate, unequally serrated, smooth. Clusters terminal, compound.

S. salicifolia. *Linn. Sp. Pl.* 700. *Willd. v.* 2. 1055. *Fl. Br.* 535. *Engl. Bot. v.* 21. *t.* 1468. *With.* 463. *Hull ed.* 2. 147. *Hook. Scot.* 152. *Don H. Br.* 32. *Pall. Ross. v.* 1. 36. *t.* 21. *Ehrh. Beitr. v.* 7. 136. *Select.* 146.

S. n. 47. *Gmel. Sib. v.* 3. 188. *t.* 39.

S. Theophrasti forte. *Clus. Hist. v.* 1. 84. *f.* *Ger. Em.* 1601. *f.* *Bauh. Hist. v.* 1. 559. *f.*

S. salicis folio. *Tourn. Inst.* 618. *Duham. Arb. v.* 2. 277. *t.* 75.

In swampy, shady, mountainous situations.

In moist hedges in Westmoreland, and on the borders of Winandermere; Mr. Gough; near Hawkshead, Cumberland; Mr. Dalton. *Withering.* Wild in several parts of the south of Scotland. *G. Don, Hooker.* I believe it to be wild also at Hafod, Cardiganshire, the situation in which it grows being perfectly similar to its native swamps in the north of Europe.

Shrub. *July.*

About 4 feet high, with several smooth, wand-like, branched, leafy *stems*, the branches round, of a tawny hue. *Leaves* alternate, on short bordered stalks, elliptic-lanceolate, or oblong, varying in breadth and acuteness, veiny, smooth on both sides, sharply and unequally serrated, deciduous, each about an inch and half long. *Stipulas* none. *Fl.* pink, inodorous, small, numerous, in

elegant, compound, upright, terminal *clusters*, with small, linear, hairy, deciduous *bracteas* interspersed. *Styles* 5.

Frequently planted in gardens and shrubberies, where it thrives in almost any soil or situation, but prefers such as are wet.

2. S. *Filipendula.* Common Dropwort.

Leaves interruptedly pinnate; leaflets uniform, serrated, smooth. Stem herbaceous. Flowers cymose, with many styles.

S. Filipendula. *Linn. Sp. Pl.* 702. *Willd. v.* 2. 1061. *Fl. Br.* 535. *Engl. Bot. v.* 4. *t.* 284. *Hook. Scot.* 152. *Fl. Dan. t.* 635.

Filipendula. *Raii Syn.* 259. *Ger. Em.* 1058. *f. Dod. Pempt.* 56. *f. Matth. Valgr. v.* 2. 217. *f. Camer. Epit.* 608. *f. Bauh. Hist. v.* 3. *p.* 2. 189, *but not the f. Trag. Hist.* 883. *f. Dorsten. Botan.* 124. *f.* F. n. 1136. *Hall. Hist. v.* 2. 56.

Œnanthe Filipendula. *Lob. Ic.* 729. *f.*

In open elevated pastures, on a chalky or gravelly soil.

Perennial. *July.*

Root woody, with many hard elliptical knobs, through which the fibres are continued. These are black externally, white and farinaceous within. *Stem* a foot or more in height, round, smooth, leafy principally in the lower part; panicled in a cymose manner at the summit. *Leaves* chiefly radical, spreading or depressed, smooth, dark green, elegantly pinnate, with oblong, narrow, opposite or alternate leaflets, and as many, or more, small intermediate ones; all deeply, sharply, and unequally cut. *Stipulas* linear, acute, entire, united laterally to the base of each radical *footstalk*, the stem-leaves being furnished with a pair of rounded cut lobes in their stead. *Panicle* forked, cymose. *Fl.* on short partial stalks, without *bracteas*, erect, cream-coloured, tinged externally with red. *Petals* obovate. *Germens* 10 or more, hairy, with short recurved *styles*, and large blunt *stigmas*.

Linnæus, *Amœn. Acad. v.* 3. 89, says "the dried knobs of the roots, beaten or ground into meal, afford no despicable substitute for bread." The whole plant nevertheless is very astringent. A beautiful double-flowered variety is often seen in gardens.

3. S. *Ulmaria.* Meadow-sweet. Queen of the Meadows.

Leaves interruptedly pinnate; downy beneath; the terminal leaflet largest and lobed. Stem herbaceous. Flowers cymose, with many styles.

S. Ulmaria. *Linn. Sp. Pl.* 702. *Willd. v.* 2. 1061. *Fl. Br.* 536. *Engl. Bot. v.* 14. *t.* 960. *Curt. Lond. fasc.* 5. *t.* 33. *Hook. Scot.* 152. *Fl. Dan. t.* 547.

Filipendula n. 1135. *Hall. Hist. v.* 2. 55.
Ulmaria. *Raii Syn.* 259. *Clus. Pann.* 699. *f. Hist. v.* 2. 198. *f. Bauh. Hist. v.* 3. *p.* 2. 488. *f.* bad.
Regina prati. *Dod. Pempt.* 57. *f. Ger. Em.* 1043. *f.*
Barbicapra. *Lob. Ic.* 711. *f.*
In moist meadows, and about the banks of rivers and ditches, common.
Perennial. *June, July.*
Root fibrous, without knobs. *Stems* 3 or 4 feet high, leafy, branched, furrowed, angular, smooth. *Leaves* of a few large, pointed, unequally serrated, veiny *leaflets;* the terminal one deeply 3-lobed; intermediate ones very small; all white and densely downy beneath. *Stipulas* rounded, deeply toothed. *Fl.* extremely numerous, cream-coloured, with a sweet but oppressive hawthorn-like scent, in dense, compound cymose *panicles. Cal.* reflexed. *Pet.* roundish. *Stam.* numerous. *Germens* 6 or 8, sometimes more, spirally contorted, with short *styles,* and large capitate *stigmas.*
The taste of the herbage, like the scent of the flowers, is aromatic, resembling the American *Gaultheria procumbens,* as is well observed by Dr. Bigelow, in his American Medical Botany, *v.* 2. 30. *t.* 22. Nor is it unlike the flavour of Orange-flower water. Dried sloe-leaves partake of this flavour, see p. 357; and hence we trace it to the perfume of green tea, and the delicious odour of the Chinese *Olea fragrans,* a plant in no respect allied to our Meadow-sweet.
Spiræa salicifolia, see n. 1, has been found in Gibside wood, Durham, by Mr. R. Wigham.

ICOSANDRIA POLYGYNIA.

254. ROSA. Rose.

Linn. Gen. 254. *Juss.* 335. *Fl. Br.* 537. *Sm. in Rees's Cycl. v.* 30. *Tourn. t.* 408. *Lam. t.* 440. *Gærtn. t.* 73. *Woods Tr. of L. Soc. v.* 12. 173.

Nat. Ord. *Senticosæ.* Linn. 35. *Rosaceæ.* Juss. 92.

Cal. inferior, of 1 leaf; tube pitcher-shaped, contracted at the summit, permanent, finally succulent; limb in 5

deep, ovate-lanceolate, pointed, concave, imbricated, permanent or deciduous segments; either all simple; or 2 of them pinnate with leafy appendages on both sides; 1 on one side only; the other 2 naked on both sides. *Pet.* 5, inversely heart-shaped, about as long as the segments of the calyx, and attached by broad claws to the rim of its tube, deciduous. *Filam.* numerous, capillary, much shorter than the petals, from the rim of the calyx within the corolla. *Anth.* roundish, flattened, of 2 oblong tumid lobes. *Germens* numerous, oblong, lining the tube of the calyx, interspersed with dense silky hairs. *Styles* 1 to each germen, lateral, smooth or hairy, all passing through the *floral receptacle* proceeding from the rim of the calyx; in some cases united into a cylinder. *Stigmas* obtuse. *Fruit* globular or ovate, formed of the permanent, pulpy, coloured tube of the calyx, closed at the summit, and lined throughout with the numerous, oblong, angular, hard, bristly *seeds*, interspersed with rigid hairs.

Shrubs for the most part prickly, hairy and glandular. *Leaves* alternate, in all our species deciduous, pinnate with an odd leaflet, in one exotic species simple; *leaflets* sessile, opposite, oblong, ovate, or roundish, simply or doubly serrated, frequently glandular, their common footstalk and ribs prickly, bristly, or glandular. *Stipulas* oblong, acute, united laterally in pairs to the base of the common footstalk; the uppermost changing to simple *bracteas*. *Fl.* terminal; solitary or aggregate, stalked; red, white, or yellow, more or less fragrant. *Fruit* called the *Hip*, scarlet, or blackish, rarely eatable. This is the most favourite genus of the whole vegetable kingdom, on account of its beauty and fragrance, but one of the most difficult with respect to the determination of its species. Mr. Joseph Woods, in the essay above quoted, and Mr. John Lindley, in a more recent Monograph, have greatly illustrated this subject. My learned friends Mr. Sabine and Mr. Edward Forster have also favoured me with many valuable remarks. With these guides, and my own experience of 23 years since the publication of this genus in the *Flora Britannica*, I proceed to a more accurate account of our British Roses. The terms I shall employ are such as are in familiar use, through every department of botany, and therefore require no particular explanation.

I am obliged to decline the use of one word, first intro-

duced into English in the history of the present genus, but not by Mr. Woods, sepals, *sepala*, for the divisions, whether segments or leaves, of the calyx. Those who are much conversant with the system of Jussieu cannot but perceive the frequent difficulties that arise between him and Linnæus, in determining whether, in certain genera, the calyx is of one piece or of many, and this question embroils the fundamental characters of some of Jussieu's orders. His distinguished follower Professor DeCandolle has attempted to remove this difficulty, by adopting a common term for the leaves or the segments of a calyx; so that in future botanical language there shall be no distinction between them. But it is surely better to encounter some ambiguities in the study of nature, than to confound things or ideas that are essentially distinct; and it is better that any system, whether natural or artificial, should be honestly acknowledged defective, rather than that clear generic differences should be neglected or invalidated. In *Rosa* the fruit, or hip, is only in appearance intermediate in nature between its own natural order and the *Pomaceæ*. The calyx is of a single leaf, whose limb has 5 deep segments, and whose tube becomes, as Mr. Woods properly understands it, the receptacle of the seeds; but this tube is not itself a germen, like that of the *Pomaceæ*, though Linnæus so denominated it. The analogy of the whole order of *Rosaceæ* shows its real nature. So important a distinction requires to be marked, but the term *sepala* designedly leaves it ambiguous. This word itself, adopted from Necker, an obscure and paradoxical writer, might long puzzle a student, who would perhaps not conceive the highest veneration for its contriver, on finding *sepala* a lame anagram of *petala*. If such be the case, as I have been informed, it renders all further remarks superfluous.

Mr. Woods I believe first suggested the importance of glandular bristles, *setæ*, on the stems of Roses, as constituting a primary character. This, as far as I have had experience, is perfectly well-founded. The presence of these bristles on the stem or branches constitutes the essential mark of my first section. The form of the prickles, *aculei*, whether straight and slender, suddenly originating from a broad depressed base; or hooked, dilated gradually downward, and more or less

compressed, is perhaps of the next degree of importance. I do not so much regard the frequent inequality of these prickles. The transition of the upper stipulas into bracteas is nearly general in British Roses, and therefore less discriminative than Mr. Woods in some cases makes it. The simple or double serratures of the leaflets, and even their pubescence, are in my opinion duly appreciated by this judicious writer. The characters derived from hence do indeed occasionally vary, as is the case, more or less, with every botanical distinction. There is no mathematical certainty in natural history, our definitions being generally but a choice of difficulties. The occasional failure in particular instances, even of specific characters generally most decisive, as opposite, or alternate, entire or serrated, leaves, does not overset our general confidence in those distinctions. So neither does a partial or occasional change in the leaves of Roses, from simple to compound serratures, prove such differences entirely futile. I am led therefore, by a careful revision of the genus, to think the accidental mutations to which I allude have induced Mr. Lindley to combine too many species together; while Mr. Woods, by too absolute dependance on some characters, has perhaps now and then made species of varieties. In the study of a genus hitherto imperfectly understood, the latter is the least injurious error. Corrected judgment may, hereafter, combine what precise observation, in the first instance, has with due caution separated, and my specific definitions may then be curtailed. I trust that neither of my intelligent friends will feel offended if, in a matter of so much conjecture, uncertainty, and novelty, I, in a few instances, differ from them. What we have done may afford a clue for the guidance of others, who will try all our principles, by applying them to practical use. In the synonyms of foreign authors, unless verified by a comparison of specimens, I have been very sparing, seeing how many mistakes are daily made by compiling or copying, instead of observing.

* *Branches bristly. Prickles mostly slender, nearly straight.*

† 1. R. *cinnamomea*. Cinnamon Rose.

Flower-stalks bracteated, smooth. Calyx mostly simple. Fruit globose. Bristles deciduous. Leaflets oblong, simply serrated, finely downy; glaucous beneath.

R. cinnamomea. *Linn. Sp. Pl.* 703. *Willd. v.* 2. 1065. *Engl. Bot. v.* 34. *t.* 2388. *Comp.* 78. *Woods Tr. of L. Soc. v.* 12. 175. *Retz. Prodr.* 120. *Afzel. Ros. Suec. tent.* 1. 7. *Sims and Kon. Ann. v.* 2. 216. *Ger. Em.* 1268. *f.* 8.

R. fœcundissima. *Fl. Dan. t.* 1214.

R. majalis. *Herm. Ros* 8. *Retz. Obs. fasc.* 3. 33. *Afzel. Ros. Suec. tent.* 1. 8. *Sims & Kon. Ann. v.* 2. 217. *Lindl. Ros.* 34.

R. collincola. *Ehrh. Beitr. v.* 2. 70. *Arb.* 25.

R. mutica. *Fl. Dan. t.* 688.

R. odore cinnamomi simplex. *Bauh. Pin.* 483.

R. cinnamomea, floribus subrubentibus, spinosa. *Bauh. Hist. v.* 2. 39. *f; prickles too many.*

R. rubra præcox, flore simplici. *Besl. Hort. Eyst. vern. ord.* 6. *t.* 5. *f.* 3. *Bauh. Pin.* 483.

Rose de Canelle. *Lob. Ic. v.* 2. 209.

Rosier printanier. *Reynier Mem. de la Suisse. v.* 1. 222 ; *from the author.*

β, with double flowers.

Rosa cinnamomea. *Lindl. Ros.* 28. *t.* 5. *Besl. Hort. Eyst. vern. ord.* 6. *t.* 5. *f.* 2. *Clus. Hist. v.* 1. 115. *f. Ger. Em.* 1268. *f.* 7.

R. fœcundissima. *Munchh. Hausvater v.* 5. 279. *Roth Germ. v.* 2. *p.* 1. 557.

R. minor rubello multiplicato flore, asperis spinis armata. *Bauh. Hist. v.* 2. 38. *f ; prickles too large and numerous ; otherwise very good.*

In woods and thickets ; a doubtful native.

In a wood in Aketon pasture, near Pontefract, Yorkshire. *Mr. Salisbury.* Not now to be found there. *Mr. Sabine.*

β is common in gardens.

Shrub. *May.*

Stem 4 or 5 feet high, with irregular, spreading, leafy, round *branches,* of a dark purplish brown, beset with very slender, white, glandular-tipped *bristles,* often wanting, as Mr. Woods remarks, on the upper part of the plant, and always soon deciduous ; so that they are rarely observable on dried specimens, though the small papillary points, from which they originated, may easily be seen. *Prickles* very few, generally in pairs under the young branches, small, slender, pale, slightly deflexed, each with a dilated, oblong, flat base. *Common footstalks* slender, round, slightly compressed, downy, almost uniformly without prickles, each with a pair of oblong, acute, membranous, smooth, purplish, wavy, combined *stipulas,* fringed with sessile glands, attached to its base ; the upper stipulas, wanting leaves, become simple and dilated, assuming the form of alternate *bracteas. Leaflets* 5 or 7, elliptic-lanceolate, acute, simply but unequally serrated ; of a greyish green, and nearly naked, above ; glaucous and finely downy beneath ; the lowermost gradually smallest. *Flower-stalks* 1, 2 or 3, terminal, simple, round,

smooth, longer than the bracteas. *Tube* of the *calyx* smooth, globular, sometimes depressed, sometimes a little elongated; segments of the *limb* very long and narrow, each with a lanceolate leafy point; their base ovate; their inner surface and edges densely downy; one or two of them sometimes bearing a few linear marginal appendages. *Petals* broad, concave, light crimson, or purplish, rather shorter than the calyx; their claws pale and veiny. *Stam.* short, yellow. *Styles* still shorter, very hairy, with smooth, blunt, green *stigmas*. *Fruit* globose, rarely tapering at the base, the size of a white currant, of a reddish, orange-colour. The *flowers*, even in the double variety, have very little scent, though some writers compare them to Cinnamon.

This Rose may possibly be wild in the place above mentioned, as it grows in most parts of Europe. It is scarcely known in gardens, except with double flowers. The *bristles*, first noticed by Mr. Woods, are hardly to be seen except on fresh specimens. The *prickles* are always more or less deflexed, sometimes a little hooked, as described in *R. fœcundissima* of authors. The second specimen in the Linnæan herbarium, mentioned by Mr. Lindley, has double flowers, and by its ticket appears to have come from a garden, not from a wild Swedish plant. I cannot find any difference between the *R. majalis*, the *mutica* of *Fl. Dan.*, and the *cinnamomea*, any more than between these and the *cinerea* and *turbinella* of my lamented friend Swartz, who was latterly inclined to make a superabundant number of species of Roses. I have them from himself, as well as those of Dr. Afzelius. The editors of the *Flora Danica* did not always see specimens of their plants, and one of them has therefore been deceived by the drawing of *t.* 688, to define the footstalks *smooth*. He has also misquoted synonyms of J. Bauhin and Haller which belong to *R. alpina*.

2. R. *rubella*. Red-fruited Dwarf Rose.

Flower-stalks generally without bracteas, bristly, like the prickly stem and simple calyx. Fruit globose. Prickles straight, scattered. Leaflets elliptical or roundish, smooth, with mostly simple serratures.

R. rubella. *Engl. Bot. v.* 36. *t.* 2521. *Comp.* 78. *Woods Tr. of L. Soc. v.* 12. 177.

On the sandy sea coast.

Sent from Northumberland by Mr. Winch.

Shrub. *July.*

Stem bushy, 2 or 3 feet high, round, branched, spreading, beset with straight, very slender *prickles*, various in length, intermixed with more numerous, smaller, glandular-tipped *bristles*, such as occur plentifully on the *footstalks*, ribs of the

leaflets, flower-stalks, and segments of the *calyx,* sometimes on the lower part of its *tube.* The *footstalks* are often prickly besides. The *stipulas* are glandular at the margin, dilated, undulated, and leafy, but hardly ever become *bracteas,* though I have an example or two of such a change. *Leaflets* from 7 to 11, not more, broadly elliptical and bluntish, with broad, acute, mostly simple, rarely notched or glandular, serratures; smooth and green on both sides, except the rib; paler beneath. Mr. Woods has remarked a few chaffy scales at the insertion of the leaflets. *Flower-stalks* solitary, simple, rough with glandular bristles. *Fl.* either blush-coloured, or white blotched with pink. Segments of the *calyx* quite simple, reddish; slightly downy on the inner side; bristly at the back, like some of the lower portion of its tube. *Fruit* bright scarlet, globular, with a short neck, and crowned with the limb of the calyx.

The colour of the fruit, though it cannot well enter into a specific definition, affords a striking distinction between this and the following species. The supposed variety from Mr. Lee's nursery, bearing a short blackish fruit, as described by Mr. Lindley, was, I am told, a foreign plant, and it appears that *R. rubella* of this author is different from my original one, whose fruit is neither elongated, nor I believe pendulous. *R. pendulina* of Roth (not *pendula*) is taken up by that writer on report, and can be of no authority; and the only clear point in the history of Pallas's *R. alpina* is, as Mr. Lindley justly determines, that it is different from the Linnæan plant, so well known in Switzerland, as n. 1107 of Haller. The account of *R. rubella* in *English Botany,* is, I believe, correct.

The authentic specimen of *R. pimpinellifolia,* marked A, in the Linnæan herbarium, has smooth *flower-stalks,* and a globose smooth *calyx-tube,* without a neck. It cannot therefore belong, as Mr. Woods suspected, to this species, but is truly the following, under which I shall give its history. The *prickly,* or rather perhaps *bristly-stalked* variety of *spinosissima* quoted in *Fl. Br.* from Withering, should seem by that character to belong to *rubella,* but this is contradicted by Mr. Winch, *Geogr. Distrib.* 40.

3. R. *spinosissima.* Burnet Rose.

Flower-stalks without bracteas, mostly smooth, as well as the simple calyx. Fruit globose, abrupt, somewhat depressed. Prickles of the stem straight, unequal, numerous, intermixed with glandular bristles. Leaflets roundish, smooth, with simple serratures.

R. spinosissima. *Linn. Sp. Pl.* 705. *Fl. Suec. ed.* 2. 171. *Willd. v.* 2. 1067. *Fl. Br.* 537. *Engl. Bot. v.* 3. *t.* 187. *Woods Tr. of L. Soc. v.* 12. 178. *Lindl. Ros.* 50. *Huds.* 218. *Fl. Dan. t.* 398. *Ehrh. Arb.* 85.

R. pimpinellifolia. *Linn. Syst. Nat. ed.* 10. 1062. A. *Herb. Linn. Sp. Pl.* 703. *Willd. v.* 2. 1067. *Sabine Tr. of Hort. Soc. v.* 4. 282.
R. n. 1106. *Hall. Hist. v.* 2. 40.
R. campestris spinosissima, flore albo odoro. *Bauh. Pin.* 483.
R. campestris odorato flore. *Clus. Hist. v.* 1. 116. *f, f.*
R. campestris odora. *Clus. Pann.* 111. *f.* 114. *f.* best.
R. dunensis, species uona. *Dod. Pempt.* 187. *f.*
R. pumila spinosissima, foliis pimpinellæ glabris, flore albo. *Bauh. Hist. v.* 2. 40. *f. Raii Syn.* 455.
R. pimpinellæ folio. *Ger. Em.* 1270. *f,* bad, as wanting prickles.
R. sylvestris pomifera. *Lob. Ic. v.* 2. 211. *f. Dalech. Hist.* 127. *f. the same.*

β. R. Ciphiana, seu R. pimpinellæ foliis minor nostras, flore elegantèr variegato. *Sibb. Scot. p.* 2. 46. *t.* 2.
R. pimpinellifolia. *Jacq. Fragm.* 71. *t.* 107. *f.* 1.
R. Pimpinella minor Scotica, floribus ex albo et carneo elegantèr variegatis. *Pluk. Almag.* 322. *Dill. in Raii Syn.* 455.

γ pusilla. *Woods Tr. of L. Soc. v.* 12. 179. Flower-stalks very short. Fruit large, depressed.

On sandy heaths, banks and hillocks, especially towards the sea.

β. First noticed by Sir Robert Sibbald, on his own estate in Scotland, and since frequently cultivated in gardens.

γ. In Ireland. *Mr. Sabine.*

Shrub. *July.*

Of the same stature as the last, but the *prickles* on the *stem* are much more abundant, and very unequal, straight, though often deflexed, oblong at the base. A few *bristles* are interspersed, differing from the prickles in their smaller size and glandular tips only. *Leaflets* usually 7, sometimes 9, smooth, opaque, almost orbicular, with broad simple serratures, which are largest towards the abrupt extremity, and very rarely here and there notched, or double, especially in luxuriant plants, whose leaflets are larger and more elliptical. *Common footstalks* more or less beset with small glandular bristles; sometimes prickly. *Stipulas* linear-wedge-shaped, fringed with glands; their points dilated, widely spreading, leafy, acute, often cut or lobed; the upper ones never, as far as I have seen, assuming the appearance of *bracteas*. *Flower-stalks* solitary, varying in length, swelling upwards, angular when dried, quite smooth and naked, according to my observation; but some of Mr. Borrer's Sussex specimens have bristly flower-stalks, like Mr. Woods's *spinosissima* ε. *Tube* of the *calyx* very smooth, globose, often abrupt or flat at the top; segments of the *limb* almost invariably simple, spreading; smooth at the back; acute, or slightly leafy, at the point; converging more or less as the fruit ripens. *Petals* cream-coloured, yellow at the base, delicately fragrant; in β striped, or copiously blotched, with red. *Fruit* generally a

little depressed, of a deep purplish black when quite ripe. I have never tasted it. Withering records that the juice, "diluted with water, dyes silk and muslin of a peach colour, and with the addition of alum, a deep violet; but it has very little effect on woollen or linen."

Such is our native plant, whose garden or foreign varieties are not the object of this work. They are ably explained by Mr. Sabine. The herbarium of Linnæus contains no original or authentic specimen, marked or numbered by himself. What bears this name is a paper of several specimens, sent by a French correspondent, and marked by Linnæus *pimpinellifolia*, but to which I have put the name *spinosissima*; and to this Mr. Woods adverts, as the true English plant; *Linn. Trans.* 183. It is not however in itself of any authority, though unquestionably the same species with another specimen, of more importance, as being the only certain authority for *R. pimpinellifolia*, and this last is sufficiently perfect to decide any question, notwithstanding the stem being stripped of its prickles, an accident often happening to the *spinosissima*, in exposed situations, as Mr. Woods truly remarks. Whatever might be the original *spinosissima* of Linnæus, though its synonyms preclude all doubt, and the *cinnamomea* seems to me out of the question, as he has recorded that the ripe fruit of his *spinosissima* is black; he certainly did not recognise it in this specimen, nor even advert to it, as at all related thereunto. He described this identical specimen, by the name of *pimpinellifolia*, which he has written upon it, subjoining the letter A, by which the species is distinguished in *Syst. Nat. ed.* 10. *v.* 2. 1062; according to his practice in that edition, to avoid disturbing the numbers of the older species. This luckily establishes the authority of the specimen beyond all question. The plant was *subsequently* received into the 2d edition of *Sp. Plant.*, but Linnæus knew not from whence it came, and still less was he aware of its being precisely his *R. spinosissima* of the 1st edition of that work. This name being the original one, and peculiarly appropriate, I cannot comply with Mr. Sabine's suggestion of changing it, however unwilling to differ, in any point, from so able and candid a friend. I must also beg leave to observe that neither Willdenow, Miller, nor Jacquin, however meritorious, are of any authority in this case; except that, if their *R. pimpinellifolia* were specifically distinct, this name might remain with it, as being very descriptive. See *Tr. of Hort. Soc. v.* 4. 282.

4. R. *involuta*. Prickly Unexpanded Rose.

Flower-stalks generally without bracteas, bristly, like the globular fruit and simple calyx. Stem bristly and very prickly. Leaflets elliptical, doubly and sharply serrated; their veins hairy beneath. Petals convolute.

R. involuta. *Fl. Br.* 1398. *Comp.* 78. *Engl. Bot. v.* 29. *t.* 2068. *Woods Tr. of L. Soc. v.* 12. 183. *Lindl. Ros.* 56; syn. incorrect.

In the western part of Scotland.

Found in several parts of the Hebrides, by the late Rev. Dr. Walker, and Mr. J. Mackay. The Rev. Dr. Stuart is recorded, by Mr. Woods, as having gathered it in Glen Lyon; and Mr. G. Don in the isle of Arran.

Shrub. *June.*

Akin to the last, the *stem*, as in that, bearing innumerable crowded, slender, very unequal, nearly straight *prickles*, intermixed with glandular *bristles*, both which are likewise observable on the downy *footstalks*. *Leaflets* 7, rarely 9, broadly elliptical, doubly and sharply serrated, the intermediate serratures numerous and glandular; green and smooth on both sides, except the rib and veins which are densely hairy beneath, sometimes above. *Stipulas* seldom changing to *bracteas*. *Flower-stalks* solitary, thickly covered with strong glandular acute *bristles*, as is almost universally the globular tube of the *calyx*, whose segments are long, bristly, for the most part simple, but in one of my garden specimens fringed with a few narrow glandular leaflets. *Petals* pale red, sometimes deeper at the margin, all concave, and scarcely half-expanded. *Styles* short. Ripe *fruit* not hitherto observed.

5. R. *Doniana*. Dwarf Hairy Rose.

Flower-stalks generally without bracteas, bristly, like the globular fruit and simple calyx. Stem bristly and prickly, like the downy footstalks. Leaflets elliptical, doubly and sharply serrated, hairy on both sides. Petals spreading.

R. Doniana. *Woods Tr. of L. Soc. v.* 12. 185.

R. Sabini β. *Lindl. Ros.* 59.

R. Sabini. *Purton v.* 3. 44; according to Mr. Sabine.

In the Highlands of Scotland.

On the mountains of Clova, Angusshire. *Mr. G. Don.*

Shrub. *June, or July.*

Stem about 2 to 5 feet high, less extensively creeping at the root, according to Mr. Don's observation, than the last, and less prickly in the upper part. The *leaflets* are clothed with fine soft hairs on both sides, not merely the ribs or veins; and the *flowers* are distinguished by their white expanded *petals*. The radical *shoots*, though very prickly, are described by Mr. Woods as less so than those of *R. involuta*. The sharp double serratures of the *leaves* are alike in both, and essentially distinguish these two species from the *spinosissima*. Of their ripe *fruit* we have no account, nor have I seen more than a dried specimen of *R. Doniana*.

It is much to be wished that this Rose should afford a permanent wreath in honour of its discoverer, one of the most indefatigable

as well as accurate of botanists, who loved the science for its own sake, and braved every difficulty in its service. He infused the same spirit into his sons, who are living evidences of his knowledge, and of his powers of instruction.

6. R. *gracilis*. Tall Bristly Rose.

Flower-stalks usually in pairs, bristly, often bracteated. Branches, globular fruit, and simple calyx bristly. Larger prickles curved, mostly two together. Leaflets doubly serrated, hairy on both sides.

R. gracilis. *Woods Tr. of L. Soc. v.* 12. 186.
R. villosa. *Engl. Bot. v.* 9. *t.* 583; *excluding the syn. and the fruit.*

In thickets in the north of England.
Near Darlington. *Mr. Robson.* At Pooley bridge, Cumberland, as well as between Keswick and Lorton. *Mr. Woods.*
Shrub. *July.*

Stem 8 or 10 feet high, with scattered, dark brown, leafy *branches*, bearing numerous *bristles* and small straight *prickles*, the former being distinguished by their glandular tips only. The larger and more genuine *prickles* are curved downwards, purplish, with an oblong dilated base, and placed usually in couples, under the origin of each young branch. None of these are exhibited in the figure of *Engl. Bot.* *Footstalks* downy, with copious glandular bristles, and a few very distinct hooked prickles. *Leaflets* 7 or 9, broadly elliptical, doubly and sharply serrated, the intermediate serratures glandular; finely hairy on both sides, and of a greyish green; the mid-rib glandular, and somewhat bristly. *Stipulas* oblong-wedge-shaped, pale green, fringed with glands; their points acute and spreading. *Flower-stalks* terminal, usually in pairs, unequal, sometimes, according to Mr. Woods, 3 together, sometimes solitary, all beset with longish, straight, reddish, glandular-tipped bristles, such as are more or less scattered over the globular tube of the *calyx*, which is seldom quite destitute of them. Similar ones are plentiful on the limb of the *calyx*, whose segments are almost uniformly simple, fringed at the points with glandular bristles, and not longer than the *corolla*. *Petals* slightly concave, of a fine pink, white at the base. Ripe *fruit* not observed.

Mr. Woods has shown great judgment in his account of this species, which is certainly the *R. villosa* drawn in *Engl. Bot.*, with the fruit perhaps of some other species. But I must confess the Rose I had in contemplation in the description, as well as in *Fl. Brit.*, was the *R. sylvestris pomifera major, Bauh. Pin.* 484. *R. pomo spinoso, folio hirsuto, Bauh. Hist. v.* 2. 38. *f.* the common Apple Rose, single or double, of our gardens; which Hudson and every British botanist, till lately, has without scruple taken for *R. po-*

mifera major of Parkinson's *Parad.* 418. *t.* 419. *f.* 7, and of Ray's *Synopsis, ed.* 2. 297. *ed.* 3. 455. It is clearly Parkinson's plant, and nobody could doubt its being that of Ray, who describes it plentiful in the mountainous parts of Yorkshire and Westmoreland. This great botanist however does not quote Caspar Bauhin, nor J. Bauhin's very expressive figure; and all English botanists of the present day declare that this garden Apple Rose, characterized by its long elliptical *leaflets*, and very large, drooping, bristly *fruit*, scarlet at first, afterwards blackish, crowned with the narrow, simple, involute *calyx*, is not found wild in England. I shall speak of Ray's plant hereafter. Mr. Sowerby, or Mr. Robson, may well be excused for annexing the *fruit* of either of these to the *gracilis*, considering how little these plants were then known, and indeed how very nearly they all are related.

7. R. *Sabini.* Sabinian Bristly Rose.

Flower-stalks somewhat aggregate, bristly, often bracteated. Branches, globular fruit, and pinnate calyx bristly. Prickles scattered, straightish. Leaflets doubly serrated, nearly smooth, with hairy ribs.

R. Sabini. *Woods Tr. of L. Soc. v.* 12. 188. *Lindl. Ros.* 59, *excl. the variety.*

β R. involuta. *Winch Geogr. Distrib.* 41; according to Mr. Sabine.

In mountainous thickets in the North.

In Scotland. *Mr. Jackson.* Near Dunkeld. *Mr. Borrer.* Near Haweswater, Cumberland. *Mr. Woods.* β In Heaton Dene, below Benton bridge, Northumberland, rare. *Mr. Winch.* One mile from Upper Leatham, towards Gisborough, Yorkshire. *Mr. S. Hailstone.*

Shrub. *July.*

Stem from 5 to 8 feet high. *Branches* brown, beset in their lower part with scattered, pale, nearly straight *prickles*, each suddenly springing from an oblong base; and in the upper with much smaller purplish prickles, often hardly distinguishable from the glandular *bristles* which accompany them. *Footstalks* downy, glandular, and copiously prickly. *Leaflets* 5 or 7, broadly elliptical, often rounded and blunt, with sharp double glandular serratures; the upper surface green, smooth, or slightly hairy, especially the mid-rib; under rather paler and more hairy about the ribs and veins. *Stipulas* wedge-shaped, keeled, finely glandular at the edges, with sharp, spreading, lanceolate points. *Flower-stalks* 1 or 2, sometimes 3, beset with unequal glandular *bristles*, as is likewise the globular tube of the *calyx*, the latter being rarely destitute of them. Segments of the *calyx* tapering, pinnate with a greater or less number of lanceolate, or linear,

acute marginal leaflets, and clothed, as well as fringed, like those leaflets, with numerous short bristles, or stalked glands. *Petals* large, expanded, of a fine red. Ripe *fruit*, sent by Mr. Hailstone, ovate, bright scarlet, bearing a few glandular bristles, especially at the base, and crowned with the long, upright, glandular, tawny segments of the *calyx*.

R. Sabini, honoured with the name of a most indefatigable and intelligent observer and cultivator of the whole genus, is perhaps the finest British species, though hitherto overlooked. It concludes the list of those which bear glandular bristles on the stem, and is distinguished from all the rest by the pinnate, or compound, segments of its calyx.

** *Branches without bristles. Prickles nearly straight.*

8. R. *villosa*. Soft-leaved Round-fruited Rose.

Fruit globose, somewhat depressed, partly bristly. Calyx slightly compound. Prickles nearly straight. Leaflets rounded, bluntish, all over downy.

R. villosa. *Linn. Sp. Pl.* 704? *Fl. Suec. ed.* 2. 463. *Herb. Linn. n.* 3. *Willd. v.* 2. 1069? *Woods Tr. of L. Soc. v.* 12. 189. *Fl. Br.* 538 β.

R. mollis. *Engl. Bot. v.* 35. *t.* 2459. *Rees's Cycl. v.* 30. *n.* 21. *Comp.* 78. *Winch Geogr. Distrib.* 42.

R. tomentosa β. *Lindl. Ros.* 77. *Hook. Scot.* 156.

β. R. heterophylla. *Woods Tr. of L. Soc. v.* 12. 195.

γ. R. pulchella. *Woods ibid.* 196.

In bushy, rather mountainous, situations, in Wales, Scotland, and the north of England.

Between Edinburgh and Ravelston wood, gathered in 1782. Found also by Mr. G. Jackson in Scotland; by the Rev. Hugh Davies in Anglesea; by Mr. Woods in Yorkshire and Cumberland; and by Mr. Winch in Northumberland.

β near Edinburgh. *Mr. Borrer.*

γ near Ingleton, Yorkshire. *Mr. Woods.*

Stem about 6 feet high, often much less, with scattered brown prickly *branches*, rather glaucous when young, but neither bristly nor hairy. *Prickles* scattered, pale, slender, nearly straight. *Leaflets* 5 or 7, more or less rounded and obtuse, often obovate, with double acute glandular serratures; both surfaces soft and downy, with a hoary aspect; the under palest, wrinkled, with prominent veins. *Footstalks* downy, bristly and glandular, with several slightly curved prickles. *Stipulas* oblong, pointed, very downy, thickly fringed with minute, almost sessile glands; the upper pair or two often destitute of leaves, and each pair united into a broad, ovate, acute, woolly *bractea*, with a strong mid-rib. *Flower-stalks* 1 or 2 at the summit of

each branch, rather short, and not always rising above the bracteas, more or less plentifully beset with slender, unequal, glandular bristles, but not downy. Tube of the *calyx* unequally globose and rather depressed, besprinkled with strong glandular bristles, becoming a large, irregularly globose, or slightly pear-shaped, prickly *fruit*, purplish when half grown, but finally scarlet. The segments of the *calyx* are always, as far as I have seen, in some degree compound, though far less copiously pinnate than in *R. tomentosa*; they are densely prickly and glandular at the back, downy in the upper part, and stand nearly upright on the fruit, which they greatly exceed in length. *Petals* of a fine, rather deep, and mostly uniform red, or pink colour.

The rounded soft and hoary *leaflets*, and large globular, by no means elliptical, or ovate, *fruit*, crowned by the very long, permanent, tawny divisions of the *calyx*, characterize this species, though one of the latter is never free from an accessory leaflet or two. The perfectly straight radical shoots are said by Mr. Lindley and Mr. Sabine to afford a permanent mark of distinction between this and the following species. I think with Mr. Woods that this is the *R. villosa* of the Linnæan herbarium, and the specimen there preserved proves, by an inscription at the back, which escaped his notice, to be what Osbeck gathered in Sudermannia. Linnæus in his *Sp. Pl.* no doubt confounded this plant with the Great Apple-bearing Rose of the gardens, of which I have already spoken under *n.* 6, *R. gracilis*. Ray might originally confound our present *villosa* with that, which should in future be called *pomifera*. So might Haller under his *n.* 1105, and so unquestionably did Hudson and Lightfoot under their *villosa*. I have done the same in *Fl. Brit.*, and am now happy to correct my error, hoping that some botanist will ascertain the native country of *R. pomifera*, and whether it grows near Basil, or Montpellier, as John Bauhin records; though in his mention of the latter station, near the famous *hortus Dei*, he describes the *fruit* as only the size of a hazel-nut, while his figure is certainly the *pomifera*. *R. villosa*, *Fl. Dan. t.* 1458, is evidently *pomifera*, though the leaflets are rather too acute. Lightfoot's description, to which Mr. Woods adverts, *Tr. of L. Soc. v.* 12. 199, is manifestly copied from Haller, see his *n.* 1105; and only shows that the latter, as well possibly as Lightfoot himself, had *R. pomifera* in contemplation. I have been induced by Mr. Woods's persuasion to remove the synonym of Dillenius quoted in *Fl. Br.* and *Engl. Bot.*, *R. sylvestris folio molliter hirsuto, fructu rotundo glabro, calyce et pediculo hispidis, Raii Syn.* 478, from the present species to *R. subglobosa* hereafter described.

Of the two varieties of *R. villosa* above indicated, β is large and luxuriant, apparently owing to richness of soil; while γ on the contrary seems diminished, by its mountain station, to a size less luxuriant than the specimen figured in *Engl. Bot. t.* 2459, which

it much resembles. I have received the latter in flower and fruit from Mr. Hailstone, who gathered it at Redcar, near Gisborough, Yorkshire. The fruit is pear-shaped, bright scarlet, near an inch long, and the accompanying foliage is greatly enlarged. *Petals* not at all crenate.

9. R. *tomentosa*. Downy-leaved Dog Rose.

Fruit broadly elliptical, bristly. Calyx copiously pinnate. Prickles slightly curved. Leaflets ovate, acute, more or less downy.

R. tomentosa. *Fl. Br.* 539. *Engl. Bot. v.* 14. *t.* 990. *Rees's Cycl. v.* 30. *n.* 39. *Comp.* 78. *Woods Tr. of L. Soc. v.* 12. 197. *Lindl. Ros.* 77, *α. Purt.* 736. *Afzel. Ros. Suec. tent.* 1. 5. *Sims & Kon. Ann. v.* 2. 214.

R. villosa *β*. *Huds.* 219. *With.* 466. *Hull* 111. *Villars Dauph. v.* 3. 551.

R. villosa. *Ehrh. Arb.* 45.

R. sylvestris fructu majore hispido. *Raii Syn. ed.* 2. 296. *ed.* 3. 454.

R. sylvestris alba, cum aliquo rubore, folio hirsuto. *Bauh. Hist. v.* 2. 44. *f.* good.

β. R. scabriuscula. *Engl. Bot. v.* 27. *t.* 1896. *Comp.* 78. *Woods Tr. of L. Soc. v.* 12. 193.

R. n. 459. *Winch Guide v.* 1. 48 ? *v.* 2. *pref.* 5 ?

In hedges and thickets.

β Near Newcastle. *Mr. Winch.* In hedges on the north side of Bury St. Edmund's, Suffolk, 1804.

Shrub. *June, July.*

Stem 6 feet high or more, branching, bushy, with round, brownish, leafy, prickly, but otherwise smooth and naked, *branches*. *Prickles* often two near together under the insertion of each leaf, besides a few scattered solitary ones, all slender and awl-shaped, in some degree curved, but with no very great dilatation at the base; nor are they compressed and sickle-shaped, like the species of the next section. *Leaflets* 5 or 7, ovate, or slightly elliptical, most acute at the extremity, and somewhat pointed; their serratures double, acute and glandular; both surfaces usually hoary, soft and downy, with a slight resinous scent, the under one more or less glandular. *Footstalks* downy, sometimes beset with many hooked prickles, as well as with copious glandular bristles. *Stipulas* linear, downy, with a dense glandular fringe; the uppermost becoming broad, ovate, pointed *bracteas*. *Flower-stalks* usually 2 or 3, often solitary, seldom 4, longer or shorter than the bracteas, clothed plentifully with glandular bristles of various lengths. *Tube* of the *calyx* elliptic-oblong, sometimes almost globular, generally covered irregularly with glandular *bristles*, which are most crowded about the base; but

occasionally it is quite smooth. Two segments of the very bristly *limb*, and one side of a third, copiously pinnate, with long, leafy, acute, toothed and glandular leaflets, as abundant as in any species whatever. *Petals* light red, white in their lower half; sometimes white blotched with red. *Fruit* scarlet, generally bristly, broadly elliptical, retaining the *limb* of the *calyx*, either spreading or reflexed, till quite ripe, when the latter usually falls off.

β appears at first sight a very distinct species, whose *leaves* are greener, and more harsh, nearly smooth except the ribs, which are hairy. Such at least is my Suffolk plant, first noticed in company with Sir T. Cullum and Mr. Crowe, the *calyx-tube* of which is remarkably slender. This I had in view in the description of *Engl. Bot.*, though the figure was drawn from a plant of Mr. Winch's, then considered the same. The latter has a rounder *calyx-tube*, and the *leaflets*, except their ribs, are quite smooth. Another specimen from this gentleman precisely accords with those from Bury; while Mr. Woods describes those he received from Mr. Winch as "hoary with a velvety down, and exceedingly soft on both sides; perhaps even more so than is usual in any other species." So I find them, and these therefore can only belong to *R. tomentosa*. They prove how liable its pubescence is to vary.

R. tomentosa was originally detected in the neighbourhood of Norwich about 45 years ago, and first published in *Fl. Brit.* under that name, which Mr. Lindley has very properly retained, in spite of the doubtful claim of a far less applicable one, of German origin, *mollissima*. John Bauhin's synonym, though of late neglected, cannot be disputed.

Mr. Woods enumerates 15 varieties, or different appearances, of this species, two of which I venture to refer to the following. To the rest I could add several, for I have seen this plant, on removal to a rich and damp garden, assume so rank and prickly a habit, as to be scarcely recognised, and even in its various wild situations the pubescence varies greatly. Still I find no considerable alteration in the divisions of the *calyx*, nor in the elliptical shape of its tube.

*** *Branches without bristles. Prickles hooked, compressed. Styles distinct.*

10. R. *subglobosa*. Round-headed Rose.

Fruit globular, abrupt, somewhat bristly. Calyx copiously pinnate. Prickles conical, hooked, compressed. Leaflets elliptical, acute, downy on both sides.

R. tomentosa ε and η. *Woods Tr. of L. Soc. v.* 12. 201.

R. sylvestris folio mollitèr hirsuto, fructu rotundo glabro, calyce et pediculo hispidis. *Dill. in Raii Syn.* 478.

In hedges and thickets.

Near Kingston-upon-Thames. *Sherard.* Near Tunbridge Wells, and Down, in Kent. *Mr. Woods.* In Cambridgeshire. *Rev. J. Holme.* Anglesea. *Rev. H. Davies.*

Shrub. *June, July.*

A stronger plant than the last, with stout round *branches*. *Prickles* chiefly in couples under the leaves and younger branches, hooked, conical, tapering gradually from a very broad base, all in some degree compressed laterally, but particularly so on the young vigorous shoots. *Leaflets* 5 or 7, elliptical and rather broad, but more or less acute at each end; hoary soft and downy on both sides; doubly serrated. *Footstalks* downy, prickly, slightly glandular. *Stipulas* downy, acute, fringed with glands. *Flower-stalks* from 1 to 8 or 9, the more numerous the shorter, beset with glandular *bristles*, mostly bracteated with the uppermost leafless *stipulas*, which are ovate-lanceolate, acute, glandular and downy. *Tube* of the *calyx* large, tumid, globose, abrupt, often slightly depressed, sometimes a little elongated at the base; variously besprinkled with bristles, but sometimes almost naked, as Sherard and the late Mr. H. Davies observed. In a half-ripe state its surface is corrugated, from the projection of the numerous *seeds*, and has a purplish-olive hue. It then much resembles a half-grown Bullace Plum. I have not seen the ripe *hip*, nor the *flowers*. The segments of the *limb* of the *calyx* are expanded, tawny, very rough with bristles or stalked glands, and copiously pinnate in the manner of *R. tomentosa*. The whole plant, except the *prickles* and *calyx*, bears more resemblance to *villosa* than *tomentosa*, and is particularly remarkable for its large globular half-ripe *fruit*. Whether it may be entitled to rank as a species, must be determined by future inquiries, as we are still but learners in the specific characters of this genus.

11. R. *rubiginosa*. Sweet Briar, or Eglantine.

Fruit obovate, bristly towards the base. Calyx pinnate. Prickles hooked, compressed; with smaller straighter ones interspersed. Leaflets elliptical, doubly serrated, hairy; clothed beneath with rusty-coloured glands.

R. rubiginosa. *Linn. Mant.* 2. 564. *Willd. Sp. Pl. v.* 2. 1073. *Fl. Br.* 540. *Engl. Bot. v.* 14. *t.* 991. *Comp.* 78. *Hook. Lond. t.* 116. *Scot.* 157 *α*. *With.* 466. *Hull* 111. *Jacq. Austr. t.* 50. *Ehrh. Arb.* 75. *Lindl. Ros.* 86 *α*.

R. Eglanteria. *Linn. Sp. Pl. ed.* 1. 491 ? *Huds.* 218. *Woods Tr. of L. Soc. v.* 12. 206. *Herm. Ros.* 17. *Afzel. Ros. Suec. tent.* 1. 8. *Sims & Kon. Ann. v.* 2. 213.

R. suavifolia. *Lightf.* 262. *Fl. Dan. t.* 870.

R. n. 1103. *Hall. Hist. v.* 2. 39.

R. foliis subtùs rubiginosis et odoratis. *Hall. Enum.* 350, *excluding the var. γ. which is R. tomentosa.*

R. sylvestris foliis odoratis. *Bauh. Pin.* 483. *Dod. Pempt.* 187. *n.* 10.

R. sylvestris odora. *Raii Syn.* 454. *Ger. Em.* 1269. *f.* 1.

R. sylvestris odorata, incarnato flore. *Besl. Hort. Eyst. vern. ord.* 6. *t.* 6. *f.* 1.

R. foliis odoratis, Eglentina dicta. *Bauh. Hist. v.* 2. 41. *f.*

In bushy places on a dry gravelly or chalky soil; sometimes on sandy islands in small rivers, as between Norwich and Yarmouth.

Shrub. *June, July.*

Stem bushy, erect, 4 or 5 feet high, with numerous, stout, compact, smooth, green *branches*, reddish when young. *Prickles* of two kinds; the larger often in pairs as well as scattered, hooked, sharp, conical, compressed, light brown, with a very broad base; smaller chiefly interspersed among the former, in great numbers, on the strong radical shoots, being much smaller and straighter, but still different from bristles, and scarcely observable on the flowering branches. *Leaflets* 5 or 7, more elliptical than ovate, rather acute, of a bright pleasant green, bordered with double glandular serratures; the upper surface minutely hairy; under covered with reddish viscid glands, from which principally exhales that peculiar fragrant scent, compared to apples, but much more generally agreeable. For the sake of this scent the plant is often forced, and is very grateful, without being oppressive, in close apartments; but it is most delightful in hedges and shrubberies. *Footstalks* downy, glandular, with several hooked prickles, and, I think, some bristles. *Stipulas* linear-lanceolate, pointed, closely and uniformly fringed with glands, such as are often found likewise on their under side near the extremity; the upper ones changing to ovate, pointed *bracteas*. *Flower-stalks* generally from 1 to 3, sometimes much more numerous, clothed with long, slender, unequal, glandular *bristles*, some of which, as Mr. Woods remarks, assume the form of slender curved *prickles*, destitute of glands. *Tube* of the *calyx* elliptical, tinged with red, irregularly bristly; segments of the *limb* more copiously pinnate than is shown in *Engl. Bot.*, their divisions distantly toothed and glandular. *Petals* bright pink. *Fruit* scarlet, mealy and insipid, more or less bristly, especially about the base, its form obovate, occasionally nearly elliptical, crowned with the withered segments of the calyx, which however are partly deciduous. Mr. Woods observes that the earliest *hip* is always obovate, though some of the later ones may assume an elliptical shape.

Mr. Woods's variety β, with curved but not hooked prickles, and smaller, sometimes rounder, leaflets, agrees very nearly with Mr. Lindley's ζ *rotundifolia*, first published by Rau, which I have from Nuremberg. The tube of the calyx, even in Mr. Woods's own specimens, appears to me as bristly at the base as in our common Sweet Briar.

I cannot but prefer the name *rubiginosa* for this species, because it is certainly what Linnæus so denominated, though he originally confounded the synonyms of this plant with the Yellow Briar, his *R. Eglanteria*. But in the 2d editions of *Sp. Pl.* and *Fl. Suec.* his *Eglanteria* is determined by its yellow flowers, and all the specimens in his herbarium marked *Eglanteria* are the Yellow Briar, of which the Austrian Rose, *R. bicolor, Jacq. Hort. Vind. t.* 1. is a very transient variety. Linnæus was first made aware of his error by his correspondent Mygind, who sent him the *rubiginosa*; and this Retzius asserts to be the Swedish plant, *Prodr. Fl. Scandinav.* 120, 121, the Neglantyr of the Swedes. Linnæus could surely never have seen it wild.

Whether *R. suaveolens* of Pursh be our *rubiginosa*, does not concern the British botanist. Mr. Lindley is decidedly of this opinion, but what Dr. Bigelow has sent me from Boston, North America, appears distinct. A careful comparison of living specimens may hereafter decide the question.

The specimens of Schleicher, described by me as *R. montana* of Villars, in Rees's *Cyclopædia*, and alluded to by Mr. Lindley, *Ros.* 115, are sufficiently ample and perfect, wanting only the petals, to prove them distinct from *rubiginosa*, the *leaflets* being quite smooth in every part, and rather glaucous beneath.

12. R. *micrantha*. Small-flowered Sweet Briar.

Fruit elliptical, somewhat bristly, contracted at the summit. Calyx pinnate, deciduous. Prickles hooked, scattered, nearly uniform. Stem straggling. Leaflets ovate, doubly serrated, hairy; glandular beneath.

R. micrantha. *Engl. Bot. v.* 35. *t.* 2490. *Comp.* 78. *Rees's Cycl. v.* 30. *n.* 35. *Woods Tr. of L. Soc. v.* 12. 209.

R. rubiginosa β. *Lindl. Ros.* 87. *Hook. Lond. t.* 116. *f.* 10, *with erroneous synonyms. Purt. v.* 3. 40.

In hedges and thickets, chiefly in the south of England.

Shrub. *June, July.*

Branches much more weak and slender than in the last. *Prickles* fewer, either solitary or in pairs under the leaves and young branches, rarely in any other part; nor are there any smaller and straighter ones interspersed. *Leaflets* broadly ovate, acute, of a rather deeper green than in *R. rubiginosa*, and less rusty, though glandular, beneath. They are also far less fragrant, as the cultivators of Sweet Briar well know; but Mr. Woods says this circumstance is variable. Indeed nothing is more so than the scent of aromatic plants, according to the different states of the atmosphere. *Flowers* light red, usually small, but this mark also is said to be variable. *Tube* of the *calyx* ovate, with a contracted cylindrical neck, its surface in some degree bristly, especially at the base, though, as Mr. Woods remarks, the

prickles thereabouts are not so long as in *rubiginosa*; segments of the *limb* not very much pinnate, falling off as the *fruit* ripens. The latter is scarlet, sometimes quite smooth, retaining its oval form, with a short neck, and commonly much smaller than the *hips* of *rubiginosa*.

Mr. Lindley, partly as it seems at the persuasion of Mr. Lyell, makes this a variety of the last; but Mr. Borrer, Mr. Sabine and Mr. Woods agree with me in keeping it distinct. Till we have more experience in the specific characters of this genus, as no one can be competent, in difficult cases, to come to an absolute conclusion, it is safer to discriminate than to confound.

13. R. *Borreri.* Downy-stalked Dog Rose.

Fruit elliptical, smooth. Flower-stalks aggregate, hairy. Calyx copiously, often doubly, pinnate, deciduous. Prickles hooked. Leaflets ovate, doubly serrated, hairy, without glands.

R. Borreri. *Woods Tr. of L. Soc. v.* 12. 210. *Winch Geogr. Distrib.* 45.

R. dumetorum. *Engl. Bot. v.* 36. *t.* 2579; but not, it seems, of Persoon.

R. rubiginosa ϑ. *Lindl. Ros.* 88.

β R. rubiginosa inodora. *Hook. Lond. t.* 117.

In hedges and thickets.

Shrub. *June, July.*

Stem from 6 to 10 feet high, round, firm, with numerous, spreading, smooth, leafy branches. *Prickles* solitary or in pairs under the branches and leaves, strongly hooked and deflexed, each with a large oblong base. *Footstalks* downy. *Leaflets* mostly 7, broadly ovate, acute, doubly serrated, deep green, shining, minutely hairy, flat; the under side rather paler, most hairy about the ribs, destitute of glands, as well as of scent. *Stipulas* linear, pointed, glandular at the edges, but not at the back; the uppermost changed to ovate, pointed, slightly hairy *bracteas*, fringed with stalked glands. *Flower-stalks* aggregate, sometimes numerous, seldom solitary, mostly downy or bristly, rarely quite naked. *Tube* of the *calyx* elliptical, green or brownish, smooth and naked; segments of the *limb* rather short, spreading, deciduous, distantly fringed with stalked glands; two of them very copiously pinnate; with crowded, broad, partly compound, acute, smooth subdivisions. *Petals* flesh-coloured, or light red, rather small. *Fruit* deep scarlet, occasionally almost globular, with a short neck; sometimes rather obovate.

Dr. Panzer of Nuremberg has sent this species for *R. sepium* of Rau, *Enum. Rosar.* 90, which Mr. Lindley considers as *bractescens* of Woods, and a variety of *canina*.

R. Borreri has been found near Edinburgh, by the very excellent botanist whose name it bears, with more hoary leaves than usually occur in England. The small-leaved variety β, figured in Professor Hooker's *t.* 117, is referred hither by that writer, entirely on Mr. Lindley's authority, as a scentless Sweet Briar. I have seen no specimen, but the excellent figure answers to *R. Borreri*, except the smallness of the *leaflets*, which are not half the size of mine or Mr. Woods's specimens, or of *Engl. Bot. t.* 2579.

14. R. *cæsia.* Glaucous-leaved Rose.

Fruit elliptical, smooth. Flower-stalks smooth, solitary. Calyx distantly and sparingly pinnate. Prickles hooked, uniform. Leaflets elliptical, somewhat doubly serrated, glaucous; hairy beneath, without glands.

R. cæsia. *Engl. Bot. v.* 33. *t.* 2367. *Comp.* 78. *Woods Tr. of L. Soc. v.* 12. 212.

R. canina pubescens. *Afzel. Ros. Suec. tent.* 1. 2. *Sims & Kon. Ann. v.* 2. 211.

In the highland valleys of Scotland, but very rare.

At Taymilt in Mid Lorn, Argylshire; and in Strath Tay, between Dunkeld and Aberfeldie. *Mr. Borrer.* By the side of Loch Tay. *Mr. George Anderson.*

Shrub. *July.*

A compact bush, about 4 or 5 feet high, remarkable for the very glaucous hue of its *foliage*, young *branches*, and *calyx*. The *stem* and main *branches* are of a purplish brown, smooth, furnished with pairs of strongly-hooked, light-brown *prickles*, under the leaves and young shoots, each prickle having an oblong-elliptical base, often longer than itself. *Leaflets* 5 or 7, elliptical, acute, their serratures slightly notched and glandular, as well as unequal, but not very regularly or distinctly double; the upper side glaucous, smooth, rarely downy; under hairy, especially about the rib and veins. *Footstalks* downy, and in some degree glandular, but scarcely prickly. *Stipulas* oblong, acute, pale, downy, fringed with glands; the uppermost gradually broadest; those at the summit changed for ovate pointed *bracteas*. *Flower-stalks* in all the specimens I have seen always solitary, smooth and naked, shorter than the *bracteas*. Mr. Borrer says they are sometimes in pairs. *Fl.* of an uniform, but very beautiful, carnation hue, occasionally white. *Tube* of the *calyx* elliptical, naked, very glaucous, subsequently brownish; segments of the *limb* either smooth at the back or glandular; one of them pinnate, with a few narrow, distant, sometimes slightly glandular, leaflets. If I am right in the synonym of Dr. Afzelius, which on the most careful scrutiny I see no reason

to doubt, the *styles* are prominent and very hairy; segments of the *calyx* deciduous; *fruit* elliptical, probably red.

Dr. Afzelius publishes his plant as indubitably a distinct species from *canina*, and that it is so I think none can doubt, unless, like the French botanist Gerard, we reduce the whole genus of *Rosa* to one species. Dr. Swartz sent the same as *R. collina* of Jacquin; an error easily corrected by an original specimen in my hands from that celebrated author, in which the *flower-stalks* are very bristly, the *leaflets* roundish, simply serrated, not glandular, nor at all glaucous.

15. R. *sarmentacea*. Trailing Smooth-leaved Rose.

Fruit broadly elliptical, naked. Flower-stalks aggregate, smooth or minutely bristly. Calyx strongly pinnate. Prickles hooked. Leaflets ovate, doubly serrated, very smooth.

R. sarmentacea. *Swartz MSS. Woods Tr. of L. Soc. v.* 12. 213.
R. glaucophylla. *Winch Geogr. Distrib.* 45.
R. canina. *Roth Germ. v.* 2. *p.* 1. 560. *Curt. Lond. fasc.* 5. *t.* 34.

In hedges and bushy places common.
Shrub. *June, July.*

Stem 8 or 10 feet high, with long, spreading, prickly, green or brownish *branches*. *Prickles* hooked and strongly deflexed, compressed, variously scattered, often in pairs under the insertion of the leaves or young branches; their bases dilated, but not depressed. *Leaflets* 5 or 7, ovate, acute, doubly and sharply serrated, with glands interspersed, very smooth on both sides; the upper side either greyish and opaque, or more seldom of a shining green; the under sometimes glaucous. *Footstalks* usually quite destitute of hairiness, but more or less glandular, as well as furnished with hooked prickles; sometimes the upper edge is hairy. *Stipulas* somewhat dilated, smooth, green, serrated, and slightly glandular; the uppermost changed to ovate, pointed, often more glandular, *bracteas*. *Flower-stalks* seldom solitary, usually 3 or 4 together and quite smooth; sometimes besprinkled with small glandular hairs. *Fl.* pink, fragrant. *Tube* of the *calyx* elliptical, rather narrow, contracted into a neck at the top, quite smooth and naked; segments of the *limb* deciduous, pinnate, with numerous, long, pointed, often broad and sometimes pinnatifid, leaflets, glandular and bristly at their edges. *Fruit* elliptical or ovate, scarlet, as grateful to the palate probably as that of the real *R. canina*, with which this equally common plant is generally confounded. The combined *styles* certainly protrude in some degree, even in Mr. Woods's specimens as well as Dr. Swartz's, approaching to the character of *R. systyla* and *arvensis*, but are much shorter

than in those species, nor is the *disk*, or *floral receptacle*, so elevated as in *R. systyla*.

Mr. Woods has quoted Roth's *canina*, probably because that author says the *leaves* are doubly serrated. For the same reason I have referred to the *canina* of Curtis, whose figure sufficiently well represents our plant, the *styles* perhaps excepted.

16. R. *bractescens*. Bracteated Downy Rose.

Fruit globose, smooth. Flower-stalks aggregate, occasionally somewhat hairy. Calyx pinnate, with entire leaflets. Prickles aggregate, hooked. Leaflets ovate, almost simply serrated; downy beneath. Bracteas rising much above the fruit.

R. bractescens. *Woods Tr. of L. Soc. v.* 12. 216.

In hedges and thickets.

About Ulverston, Lancashire, and Ambleside, Westmoreland. *Mr. Woods.*

Shrub. *June, July.*

A *bush* 6 or 7 feet high, with diffuse *branches*. *Prickles* hooked, each from a broad base, in pairs under each leaf and young branch, and often accompanied by a few smaller ones, making a kind of whorl, but there are scarcely any solitary scattered prickles in other places. *Leaflets* large, elliptic-ovate, acute; for the most part simply, but here and there doubly, serrated; downy or finely hairy on both sides, especially beneath, where the ribs are always very hairy, and the mid-rib often prickly. *Footstalks* downy, bearing several hooked prickles, with now and then a glandular bristle. *Stipulas* broad; downy externally; entire towards the base; serrated upwards, and acutely pointed; several of the upper ones greatly dilated, their *leaves* diminished, and more or less incomplete; the uppermost of all being changed to very large, concave, ovate, pointed, entire *bracteas*, overtopping the flowers. *Flower-stalks* 2, 3, or 4, rarely solitary, for the most part naked, sometimes beset with a few weak scattered hairs, or bristles. *Tube* of the *calyx* globular, smooth; segments of the *limb* smooth at the back, pinnate with several lanceolate, entire, slightly bristly or glandular, leaflets. *Petals* flesh-coloured. *Styles* a little prominent, very hairy. *Stigmas* forming a prominent cone, intermixed with hairs.

Several good botanists have referred this species to *R. canina*, from which it apparently differs in many particulars. At least I do not think myself authorized to abolish it, having never seen the plant alive, nor have I any other information than what is afforded by the description, and three dried specimens,

of Mr. Woods. The following is perhaps more doubtful, but for the same reasons I leave it for future inquiry.

17. R. *dumetorum*. Thicket Rose.

Fruit elliptical, smooth, as tall as the bracteas. Flower-stalks aggregate, slightly hairy. Calyx copiously pinnate, somewhat cut. Prickles numerously scattered, hooked. Leaflets simply serrated, hairy on both sides.

R. dumetorum. *Woods Tr. of L. Soc. v.* 12. 217. "*Thuill. Paris.* 250," according to Mr. Woods.

In hedges in the southern counties occasionally; seldom in any abundance. *Woods.*

Shrub. *June.*

From 4 to 6 feet high, with many weak spreading *branches*. *Prickles* rather plentiful, and for the most part irregularly scattered, often in pairs under the footstalks, strongly hooked, broad at the base. *Leaflets* much smaller than in the last, of a grass green and rather shining, elliptic-ovate, acute, with simple, uniform, scarcely ever divided serratures, finely hairy, more or less, on both sides; the mid-rib very hairy, sometimes prickly, beneath. *Footstalks* hairy and prickly. *Stipulas* narrow, serrated. *Bracteas* serrated, pointed, often leafy and jagged, longer than the *flower-stalks*, which are short and stout, commonly 2 or 3 together, smooth, or a little hairy. *Tube* of the *calyx* roundish or elliptical; segments of the *limb* rather copiously pinnate, with long, entire or toothed, leaflets. *Petals* reddish. *Styles* prominent, a little hairy. *Stigmas* forming a round hairy head. *Fruit* red, ovate, or nearly globular.

18. R. *Forsteri*. Downy-ribbed Dog Rose.

Fruit elliptical, smooth, like the aggregate flower-stalks. Calyx copiously, and somewhat doubly, pinnate. Prickles scattered, conical, hooked. Leaflets simply serrated; smooth above; ribs hairy beneath.

R. collina β and γ. *Woods Tr. of L. Soc. v.* 12. 219.

In hedges.

Shrub. *June, July.*

Stem 6 or 8 feet high, with spreading, sometimes weak, branches. *Prickles* either in couples under the leaves and young branches, or solitary and dispersed, conical at the base, hooked, not deflexed; sometimes very small with a broad base. *Leaflets* 5 or 7, elliptical, acute, sharply and unequally, but never doubly, serrated, nor glandular, though the tips of the serratures are brown and cartilaginous; upper surface of a rather glaucous green, either opaque or shining, quite smooth; under paler, the

mid-rib especially very hairy. *Footstalks* hairy or downy, prickly, as well as obscurely glandular. *Stipulas* oblong, pointed, fringed in the upper part with glands; a little hairy externally; the upper ones changed for large, ovate, nearly smooth, pointed *bracteas*, longer than the smooth *flower-stalks*, which are usually 2 or 3 together. *Tube* of the *calyx* elliptical, quite smooth; sometimes nearly globular; segments of the *limb* externally roughish, but not glandular, irregularly, sometimes doubly, pinnate, with smooth, lanceolate, brown-tipped leaflets or subdivisions. *Petals* flattish, pale red; sometimes white. *Floral receptacle* convex. *Styles* but slightly hairy, distinct, and not very prominent. *Stigmas* in a round lax head, smooth. *Fruit* elliptical, occasionally nearly globular.

I do not perceive any remarkable difference between Mr. Woods's *collina* β and γ; the latter is said to be common all around London, and indeed throughout England. His α, or supposed type of the species, is *R. collina*, *Jacq. Austr. t.* 197, which, by a specimen from the author, appears distinctly characterized by its dense habit, bristly *flower-stalks*, very hairy *styles*, and rounded *leaflets*. This latter has not been gathered in Britain. Finding myself obliged to separate it from the plant Mr. Woods has described, I gladly concur with Mr. Sabine in giving Mr. Forster's name to what thus becomes a new species, totally different in the simple and naked, not glandular, serratures of its leaves from all the preceding, principally *R. Borreri*, which it otherwise resembles; and from *R. canina* in its hairy mid-rib. Whether any other characters may be discovered betwixt *R. Forsteri* and *canina*, on a comparison of living specimens, must for the present be left in doubt; for there are many particulars, concerning several of our most common Roses, that still require investigation.

Of Mr. Woods's δ, an elegant little plant, with small pointed leaflets, I have only seen one dried specimen, which answers to the above specific character.

19. R. *hibernica*. Irish Rose.

Fruit nearly globular, smooth, as well as the flower-stalks. Calyx pinnate, with entire appendages, permanent. Prickles slightly curved, scattered, unequal. Leaflets simply serrated, elliptical; ribs hairy beneath.

R. hibernica. *Engl. Bot. v.* 31. *t.* 2196. *Comp.* 78. *Woods Tr. of L. Soc. v.* 12. 222. *Lindl. Ros.* 82.

In thickets in Ireland.

Discovered in the counties of Derry and Down, particularly near Belfast harbour, by Mr. Templeton, who, in consequence of its being judged a new Irish plant, received from a society at Dublin, "*exemplo raro et inaudito*," a premium of 50 pounds

sterling. This gentleman has many more claims to botanical distinction.

Shrub. *June—November.*

A compact bush, from 3 to 6 feet high, copiously branched, and very prickly. It has much of the habit and characters of the first section of the genus, and some of its smaller *prickles* look very like bristles; but they are not glandular nor quite straight. The curvature of all the *prickles* indeed is but slight, though the larger ones are sufficiently hooked, as well as compressed, to entitle the plant to a place in our third section, being moreover allied to several neighbouring species. *Leaflets* 5 or 7, smaller than most of this section, elliptical or roundish, acute, strongly, sharply, and rather unequally, but by no means doubly, serrated, quite destitute of glands; the upper surface a little glaucous, rarely besprinkled with fine longish hairs; under smooth, except the ribs, which bear plenty of white hairs, unequal in length and direction. *Footstalks* hairy and in some instances prickly, not glandular. *Stipulas* smooth, dilated upwards, minutely serrated, with spreading points; the uppermost often changed for smooth, ovate, pointed, slightly serrated *bracteas*. *Tube* of the *calyx* globular, very smooth; segments of the *limb* pinnate, with a few linear-lanceolate, entire leaflets, neither cut nor glandular. *Flowers* rather small, of a light blush-colour. *Floral receptacle* very flat. *Styles* distinct. *Fruit* orange-coloured, roundish-ovate, sometimes almost exactly globular, crowned with the upright permanent segments of the *calyx*, about its own length.

20. R. *canina*. Common Dog Rose.

Fruit ovate, smooth or somewhat bristly, like the aggregate flower-stalks. Calyx pinnate, deciduous. Prickles strongly hooked. Leaflets simply serrated, pointed, quite smooth.

R. canina. *Linn. Sp. Pl.* 704. *Willd. v.* 2. 1077. *Fl. Br.* 540. *Engl. Bot. v.* 14. *t.* 992. *Woods Tr. of L. Soc. v.* 12. 223. *Lindl. Ros.* 98, with many doubtful synonyms. *Hook. Scot.* 157. *Winch Geogr. Distrib.* 46. *Herm. Ros.* 11. *Fl. Dan. t.* 555. *Trag. Hist.* 986. *f.*

R. n. 1101. *Hall. Hist. v.* 2. 38.

R. sylvestris inodora, seu canina. *Raii Syn.* 474.

R. sylvestris vulgaris, flore odorato incarnato. *Bauh. Pin.* 483.

R. sylvestris alba cum rubore, folio glabro. *Bauh. Hist. v.* 2. 43. *f.*

β. R. surculosa. *Woods Tr. of L. Soc. v.* 12. 228.

γ. R. nuda. *Woods ibid.* 205? Fruit globular. Prickles nearly straight.

In hedges, woods and thickets, common.

Shrub. *June, July.*

Stem 6 or 8 feet high, stout and prickly, with long, trailing or

spreading, *branches*. *Prickles* scattered or in couples, stout, hooked and strongly deflexed, except in the doubtful variety γ; their base large, much elongated and flattened. *Leaflets* 7, large, elliptical, with a small twisted point more or less apparent, sharply and simply, though often unequally serrated, and not glandular; perfectly smooth in every part; the upper surface deep green, either opaque or very shining; under paler. *Foot-stalks* beset with a few hooked prickles, the upper edge often slightly hairy, rarely bristly or glandular. *Stipulas* linear, taper-pointed, smooth, with glandular serratures, which are sometimes very slight. *Bracteas* ovāte, pointed, serrated and hairy at the margins. *Flower-stalks* from 1 to 4, or many more, according to the strength of the shoot or branches, for the most part smooth, but sometimes furnished with weak glandular *bristles* as well as the elliptical *tube*, and simply pinnate *segments*, of the *calyx*, though both the latter are usually smooth. *Flowers* of various shades of pink, large, fragrant and beautiful; seldom quite white. *Floral receptacle* small and flat. *Styles* slightly prominent. *Fruit* ovate, stripped of the segments of the calyx, bright scarlet, of a peculiar and very grateful flavour when ripe, especially if made into a conserve with sugar. How far any of our other Roses, hitherto confounded with this, partake of the same flavour, I have not had the means of knowing, but this much concerns those who prepare Conserve of Hips. I have often been sensible of a great diversity of flavour in these fruits, casually gathered late in autumn.

Var. β differs in having remarkably strong shoots, bearing sometimes great plenty of flowers; but I agree with Mr. Sabine in thinking it a mere variety. Most Roses, if cut down, send up such vigorous shoots the next season.

γ is more doubtful, having the *calyx-tube* globose, and the *prickles* nearly straight; but no safe judgment can be formed upon the only known specimen, gathered by Mr. Woods at Ambleside.

The wooden cut in Dodonæus, *Pempt.* 186, named *R. sylvestris*, belongs to this species, though it serves in Gerarde to represent the Sweet Briar, see *n.* 11.

**** *Branches without bristles. Prickles hooked, compressed. Styles combined.*

21. R. *systyla*. Close-styled Dog Rose.

Fruit ovate-oblong, smooth. Flower-stalks glandular. Calyx pinnate, deciduous. Prickles hooked. Leaflets simply serrated. Floral receptacle conical. Styles combined, smooth.

R. systyla. "*Bastard Flore d'Anjou, as quoted by Desvaux, Journ. de Bot. v.* 2. 113"? *Woods Tr. of L. Soc. v.* 12. 230. *Lindl. Ros.* 111. *Hook. Scot.* 159.

R. collina. *Engl. Bot. v.* 27. *t.* 1895 ; *excluding the syn.*

β lanceolata. *Lindl. ibid.* Leaflets ovate-lanceolate. Fruit spherical.

γ Monsoniæ. *Lindl. ibid.* Stem more dwarf, erect, many-flowered; branches occasionally bristly. I have not seen this.

" R. collina Monsoniæ. *Redout. Ros. v.* 3. 67." *Sabine.*

In hedges and thickets.

Common in Sussex. *Mr. Borrer.* At Walthamstow, Quendon, and Clapton, near London. *Mr. E. Forster.* At Donnington castle, Berkshire. *Mr. Bicheno.* Near Penshurst, Kent, and Hornsey, Middlesex. *Mr. Woods.* Hills in the south of Scotland ; Mr. Hopkirk. *Hooker.*

Shrub. *June, July.*

" A slender shrub, from 8 to 12 feet high." *Woods. Prickles* hooked, with a greatly dilated base ; sometimes on the main *stem* large, conical, with a small curved point, compressed, well compared by Mr. Woods to a parrot's beak. *Leaflets* 5, more rarely 7, elliptic-ovate ; in β more lanceolate ; acute, simply serrated ; smooth above ; ribs for the most part hairy beneath. *Footstalks* glandular and minutely prickly, somewhat downy. *Stipulas* linear, acute, downy at the edges, and either glandular or serrated ; the uppermost changed for 2 or 3 lanceolate *bracteas. Flower-stalks* aggregate, various in number, rough with many glandular *bristles. Tube* of the *calyx* elliptic-oblong, brownish, smooth except at the very base ; segments of the *limb* copiously pinnate, with long, narrow, taper-pointed, entire, or slightly glandular, smooth leaflets. *Fl.* fragrant, concave, pink or almost white. *Floral receptacle* conical. *Styles* united into a simple, prominent, furrowed, but not hairy, column, which gave rise to the name. *Stigmas* separate, smooth. *Fruit* ovate-oblong, in β globular, smooth, scarlet, stripped of the segments of the calyx, but crowned with the prominent floral-receptacle and permanent styles.

The supposed variety γ, to which Mr. Sabine first gave the name of *R. Monsoniæ*, was found in a hedge near Watford, by Miss Monro, from whence it was removed to the garden of Lady Monson. It is described as very beautiful, having stout, erect *stems*, bearing large bunches of most elegant *flowers*. Mr. Lindley says the *fruit* is of a more orange red than the usual hue of *R. systyla*. The bristly *branches* indicate a far different tribe.

22. R. *arvensis*. White Trailing Dog Rose.

Fruit globose or elliptical, smooth. Flower-stalks glandular. Calyx pinnate, deciduous. Prickles hooked, scattered. Leaflets simply serrated. Floral receptacle slightly convex. Styles combined, smooth.

R. arvensis. *Huds. ed.* 1. 192. *ed.* 2. 219. *Linn. Mant.* 2. 245. *Willd. Sp. Pl. v.* 2. 1066. *Fl. Br.* 538. *Engl. Bot. v.* 3. 188. *Woods Tr. of L. Soc. v.* 12. 232. *Lindl. Ros.* 112. *Hook. Scot.* 158. *Villars Dauph. v.* 3. 548.

R. sylvestris. *Herm. Ros.* 10.

R. serpens. *Ehrh. Arb.* 35.

R. repens. *Jacq. Fragm.* 69. *t.* 104.

R. n. 1102. *Hall. Hist. v.* 2. 39.

R. arvensis candida. *Bauh. Pin.* 484.

R. campestris repens alba. *Ibid.*

R. sylvestris altera minor, flore albo nostras. *Raii Syn.* 455.

R. sylvestris, folio glabro, flore plane albo. *Bauh. Hist. v.* 2. 44. *f.*

Rosier rampant. *Reynier Mem. de la Suisse v.* 1. 222; *from the author, who describes it as not known to Haller.*

In hedges, thickets, and the borders of fields, chiefly in the midland and southern counties. Mr. Woods remarks that it is rare in the mountainous districts. Common in Norfolk.

Shrub. *July.*

A bush about 4 or 5 feet high, much more when supported, sending forth abundance of trailing, glaucous, often mahogany-coloured, arching *branches*, many feet in length. *Prickles* all scattered, not in pairs, strongly hooked, smaller than those of *R. canina*. *Leaflets* 5, rarely 7, elliptic-oblong, acute, simply, though sometimes unequally, serrated, generally smooth on both sides; glaucous beneath, where the ribs are often hairy. *Footstalks* prickly, finely hairy as well as minutely glandular. *Stipulas* linear, acute, narrow, glandular at the margins. *Bracteas* similar, linear-lanceolate. *Fl.* rarely solitary, generally from 3 to 5 together, rather concave, slightly scented, white and very elegant; the buds frequently blush-coloured. *Flower-stalks* often dark red, rough with numerous short glandular *bristles*. *Tube* of the *calyx* elliptic-oblong, glaucous, partly reddish, smooth, rarely glandular; *segments* smooth or somewhat glandular, pinnate, with lanceolate smooth leaflets. *Floral receptacle* convex, but not conical, nor so prominent as in *R. systyla*, though the *styles* are much longer, united, as in that, into a stout furrowed column, destitute of hairs, which is not the case with any other British Rose, except the last, and crowned by the smooth *stigmas*, crowded, and partly combined, into a round head. *Fruit* of a dark blood-colour, usually, as far as I have seen, globular and smooth. Mr. Woods describes it as in general elliptic-oblong, at least where the stalks are aggregate. He highly commends its flavour, as well as that of *R. systyla*.

I have never perceived any specific difference between *R. arvensis* and the Ayrshire Rose, now so frequently cultivated. The latter has been proved by Mr. Sabine's accurate inquiries, see *Tr. of Hort. Soc. v.* 4. 456, to be of exotic origin, and therefore does

not belong to the present subject, any more than *R. sempervirens*, now and then confounded with both; but which, unless I am greatly mistaken, may always be known, besides other marks, by its very hairy *styles*.

The eminently beautiful Rose, suspected by Mr. Sabine to be a double blush-coloured variety of *arvensis*, called in the Nurseries round London the "Double Hip Rose," and mentioned by Mr. Woods and Mr. Lindley, has not only a very different aspect, but likewise different characters, approaching *R. gallica* and its allies, with which it nearly agrees in magnitude. The *branches* are really furnished, like those species, with glandular *bristles*, as in my first section, and the subdivisions of the *calyx* bear long, tawny, marginal hairs. The *styles* I have not been able to examine, but Mr. Lindley says they are not united, a most essential distinction! I cannot but concur with him in thinking this plant the offspring of some of the common garden Roses, whether by the pollen of *R. arvensis*, which it approaches rather in general external similitude than in any one character, I greatly doubt. Mr. Sabine informs me the original plant was found in Devonshire; and I am also indebted to this gentleman for the account of another remarkable variety, of a stout habit, with very large pale-flesh-coloured *petals*, found wild in a hedge in Somersetshire, by our much-lamented friend Mr. George Anderson, a most faithful and intelligent observer. This is now known to cultivators by the name of *R. arvensis Andersonii*.

The Swedes have not *R. arvensis*, nor do they in general seem to know it. Linnæus adopted it, apparently without a specimen, from Hudson; and my very correct friend Dr. Afzelius thinks it was afterwards confounded with something else. *Fl. Dan. t.* 398, certainly a different species from *arvensis*, is referred by Dr. Afzelius to *pimpinellifolia*, under which, as *spinosissima*, see n. 3, I have quoted that figure.

255. RUBUS. Bramble and Raspberry.

Linn. Gen. 254. *Juss.* 338. *Fl. Br.* 541. *Sm. in Rees's Cycl. v.* 30. *Tourn. t.* 385. *Lam. t.* 441. *Gærtn. t.* 73.

Nat. Ord. see *n.* 254.

Cal. inferior, of 1 leaf, in 5 deep, simple, ovate-oblong, concave, pointed, permanent segments, either spreading or converging. *Pet.* 5, obovate, spreading or nearly erect, often crisped, or folded, about the length of the calyx or shorter, attached by their claws to its rim, alternate with its segments, deciduous. *Filam.* numerous, capillary, erect, shorter than the petals, from the tumid rim of the calyx within the corolla. *Anth.* roundish, flattened, of 2 lobes. *Germ.* numerous, globular, crowded closely to-

gether into a round head. *Styles* 1 to each germen, lateral, short, ascending, permanent, elongated after the flowering. *Stigmas* obtuse, permanent. *Berry* compound, globular, concave, deciduous, of several round, juicy, combined *grains*, upon a conical, dry, spongy *receptacle*. *Seeds* solitary, ovate-oblong, keeled, hard, wrinkled and pitted.

Plants all perennial. *Stems* shrubby, rarely herbaceous; branched or simple; erect, ascending, or trailing; angular or round; leafy, usually prickly, as well as the whole of the herbage, which is also hairy, often downy, or partly glandular and bristly. *Leaves* alternate, stalked; pinnate, digitate, somewhat pedate, ternate, or simple; veiny, serrated, or unequally jagged or notched; most downy beneath. *Stipulas* linear-lanceolate, often very narrow, in pairs, attached to, or entirely originating from, the base of each *footstalk*. *Fl.* terminal, white or red, inodorous; in the shrubby species numerously aggregate, and variously panicled, from the erect or ascending stems of the preceding year; in most of the herbaceous ones solitary and upright. *Fruit* black, crimson, or yellowish, wholesome, in many cases highly grateful. The *seeds* have only one *testa*, or *skin*, lined with a simple *membrana*, or *film*; see *Grammar*, 26. They are not therefore *nuts*, as they want an external *shell*; nor are the *grains drupas*, though the *seeds* are solitary.

* *Stem shrubby, angular.*

1. R. *fruticosus*. Common Bramble, or Blackberry.

Stems angular, furrowed; barren ones arched and elongated. Prickles hooked. Leaves pedate, of five, stalked, ovate-oblong leaflets; white and downy beneath. Panicle cylindrical, twice compound. Calyx reflexed, unarmed.

R. fruticosus. *Linn. Sp. Pl.* 707. *Herb. Linn. n.* 5. *Willd. v.* 2. 1084. *Fl. Br.* 543. *Engl. Bot. v.* 10. *t.* 715. *Hook. Scot.* 160? *Weihe and Nees Rub. Germ.* 24. *t.* 7.

R. n. 1109. *Hall. Hist. v.* 2. 42.

R. major, fructu nigro. *Bauh. Hist. v.* 2. 57. *f. Chabr. Ic.* 109. *f. Raii Syn.* 467.

Rubus. *Lob. Obs.* 619. *f. Ic. v.* 2. 211. *f. Dod. Pempt* 742. *f. Ger. Em.* 1272. *f. Camer. Epit.* 751. *f.*

β R. vulgaris major, fructu albo. *Raii Syn.* 467.

In hedges, thickets and woods, common.

Shrub. *July, August.*

Stems truly shrubby, of a dark red or purple, strongly angular, with intermediate furrows, many feet in length, tough and woody, biennial, if not perennial, flowering the second year, branched, leafy; the barren ones smooth, arched, and sometimes taking root at the extremity; the others erect, and slightly downy at the upper part. *Prickles* numerous on the angles of the stems, sharp and strongly hooked, reddish. *Leaves* firm and durable, almost evergreen, of 5 ovate-oblong, acute, or pointed, sharply and unequally serrated *leaflets;* which are dark green, smooth, or slightly hairy above; snow-white, finely downy, and strongly veined, with a prickly rib, beneath; the terminal one largest, with a long partial stalk; 2 next with much shorter partial stalks, each of which bears a considerably smaller, nearly sessile, leaflet, so that the whole *leaf* is strictly pedate, the uppermost on the flowering *stems* only being ternate, or even simple. On the same branch are sometimes seen a few *leaves* that are pale green at the back, and merely hairy, not at all cottony, or white. *Footstalks* in some degree hairy, all beset with strongly hooked prickles. *Stipulas* bristle-shaped, hairy, in pairs upon each footstalk near the base. *Clusters* erect, oblong, rather densely panicled, twice compound, many-flowered; their branches and stalks rather angular, white, and finely downy, without glandular hairs. *Bracteas* solitary, linear-lanceolate, white or hoary. *Fl.* erect, handsome. *Calyx* downy all over, reflexed in the flower, as well as in fruit, destitute of prickles, and of glandular hairs. *Petals* of a delicate pink, rarely if ever white. The excellent authors of the "*Rubi Germanici,*" on the contrary, find them generally white. *Stamens* red. *Berry* nearly globular, of very numerous purplish-black, smooth juicy grains, of a sweet but mawkish flavour, ripened late in autumn.

Several reputed varieties of this species, almost equally common, have been observed in Britain, differing in the shape and pubescence of their *leaflets,* not to mention other characters. These have recently been proposed as species, in a very able work, with excellent plates partially coloured, by Dr. A. Weihe and Professor Ch. G. Nees ab Esenbeck, of Bonn, under the title of *Rubi Germanici.* Some of them were sent me from Shropshire by the Rev. E. Williams in 1801, and others have been noticed, long since, by Mr. E. Forster, Mr. Borrer and Mr. Bicheno, who have all favoured me with specimens accompanied by valuable remarks as usual. Mr. Thomas Furly Forster has also been long attentive to the same subject. Mr. Bicheno recommends a new arrangement of all the species of this genus, which is here nearly adopted. If I do not go quite so far as the writers of the above work, in the received number of species, my reasons will appear

in the sequel. I take advantage of the permission they are pleased expressly to grant me, fully relying on their candour. Notwithstanding the colour of the flowers, I cannot suppose our British *R. fruticosus* to differ from theirs.

2. R. *plicatus*. Plaited-leaved Bramble.

Stems angular, all nearly erect. Prickles deflexed. Leaflets five or three, separately-stalked, ovate, plaited; hoary beneath. Panicle compound, corymbose. Calyx reflexed, unarmed.

R. plicatus. *Weihe and Nees Rub. Germ.* 13. *t.* 1.

In hedges.

Common in hedges in Shropshire. *Rev. Edward Williams.*

Shrub. *July.*

Stems 4 feet or more in height, all nearly erect, but according to Weihe and Nees the barren ones are in shady situations considerably elongated; they are reddish when exposed to the sun, otherwise green, angular, but not furrowed, smooth, or slightly hairy towards the panicle only. *Prickles* smaller than in the foregoing, pale, deflexed or partly hooked, on the angles of the stem, not very numerous; those on the *footstalks*, and ribs of the *leaves*, copious, reddish, and rather more curved. *Leaves* of the barren stems, and lower part of the fertile ones, of 5 *leaflets;* upper ones on the latter of 3; the uppermost of all simple, occasionally three-lobed; the middle *leaflet* on a long stalk, the rest on shorter ones, all distinct and somewhat hairy: *leaflets* larger than in the preceding species, broadly ovate, acute, or pointed, coriaceous, more or less plaited towards the margin, strongly and unequally serrated, sometimes jagged; their under surface hoary and finely downy, but not white or cottony, strongly ribbed, with many fine, transverse, parallel, connecting veins. *Stipulas* like the last. *Panicle* shorter and more corymbose, hairy, not white and downy, nor does it bear scarcely any glandular bristles; in my only specimen it is twice or thrice compound, in the figure quoted simple, in both interspersed, more or less, with simple, ovate leaves, bearing large stipulas. *Bracteas* like the latter. *Flowers* white. *Calyx* reflexed. I have not seen the *fruit.* It is said to be acid, black and shining.

3. R. *rhamnifolius*. Buckthorn-leaved Bramble.

Stems angular, furrowed; barren ones arched. Prickles deflexed, straight. Leaves slightly pedate, of five or three orbicular, obovate, or somewhat heart-shaped, pointed leaflets; hoary beneath. Panicle twice compound, finely hairy. Calyx spreading.

R. rhamnifolius. *Weihe and Nees Rub. Germ.* 20. *t.* 6; *excl. Engl. Bot. t.* 715, *and perhaps Lam. t.* 441. *f.* 2.

Rubus. *Trag. Hist.* 970. *f. Fuchs. Hist.* 152. *f.* "*DeCand. Fr. v.* 4. 475."

β R. cordifolius. *Weihe and Nees Rub. Germ.* 19. *t.* 5.

Rubus. *Matth. Valgr. v.* 2. 356. *f.*

R. fruticosus. *Mill. Illustr. t.* 45.

In woods and hedges, not uncommon.

Near Henfield, Sussex. *Mr. Borrer.* In a wood at Hale End, near Walthamstow, Essex. *Mr. E. Forster.* Abundant in woods about Tangley, Oxfordshire. *Mr. Bicheno.*

Shrub. *July, August.*

Stems angular, with slight intermediate furrows, more or less variegated with blue, either smooth or minutely hairy; the barren ones arched, many feet in length, described by Weihe as often taking root at the extremity. *Prickles* variously scattered, chiefly on the angles of the stem, reddish, or purple, pointing downwards, but more slender, narrower at the base, and less hooked than in *R. fruticosus,* or even *plicatus*; except those of the *footstalks* and ribs of the *leaflets,* which are all hooked, or sickle-shaped, as in those species. *Leaves* of the barren stems, and great part of the fertile ones, of 5 *leaflets;* upper ones upon the latter of 3; the topmost simple; the central leaflet on a very long prickly partial-stalk, the rest on short ones, of which the 2 lateral are sometimes combined: *leaflets* large, flat, pointed, sharply and copiously serrated; bright green and nearly smooth above; downy and hoary, with shining white hairs interspersed, beneath, but not pure white and cottony as in *R. fruticosus*; their shape is obovate, often doubly serrated, but in the ternate ones more orbicular, with nearly uniform and simple serratures; in β they are somewhat broader, and heart-shaped at the base, but I can find no other difference in any part whatever of the two plants. *Stipulas* linear-lanceolate. *Panicle* oblong, twice or thrice compound, somewhat leafy, hairy and prickly, the partial stalks round, densely downy, hoary; not snow-white and angular like those of the first species, nor do they bear prominent glandular hairs, like many of the following. *Bracteas* linear-lanceolate. *Fl.* white, or purplish. *Calyx* spreading, not closely reflexed even when in fruit; its segments white and densely downy, with some appearance of minute glandular dots, but no bristles, nor prickles, in any specimen I have seen. *Fruit* black, of not very numerous grains.

In one of Mr. Forster's specimens the upper *leaflets* of the flowering stem are almost lanceolate, but this seems of rare occurrence.

The authors of the *Rubi Germanici* suspect *t.* 715 of *Engl. Bot.* to belong to this species. I have no specimen of the identical plant there delineated, but the shape of the *leaflets,* and the broad hooked red *prickles,* certainly rather indicate the true

fruticosus, described above from authentic wild specimens, compared with those of Linnæus.

4. R. *leucostachys*. White-clustered Bramble.

Stems angular, downy. Prickles deflexed, slightly hooked. Leaves of five or three roundish-ovate, or heart-shaped, pointed, jagged leaflets; hoary beneath. Panicle cylindrical, and, like the unarmed reflexed calyx, minutely glandular.

R. leucostachys. *Schleicher MS.*

In woods and thickets.

Near Henfield, Sussex, and in St. Leonard's forest. *Mr. Borrer.* In Hampshire. *Mr. Bicheno.* Near Hale End, Essex. *Mr. E. Forster.* About Newbury. *Mr. Bicheno.*

Shrub. *July, August.*

Mr. Borrer observes that this species "rivals the *fruticosus* and *rhamnifolius* in size, and resembles them in mode of growth; but is readily distinguishable by its abundant shaggy and shining pubescence, and narrow *cluster* or *panicle*. The *leaves* also are generally more jagged, and even the old *stems* are rarely without hairs. The *shoots* are angular, scarcely furrowed." All the specimens I have seen confirm this account. One of them was received by Mr. E. Forster from a well-known Swiss botanist, Mr. Schleicher, under the above name. What I find peculiar in this species are the abundant little glands, sessile or somewhat stalked, scattered over the branches and stalks of the long, narrow, cylindrical *panicle*, as well as the outside of the *calyx*, but seldom projecting so far as the copious hairs of those parts. The *calyx* moreover is destitute of prickles, except a few short ones occasionally at the very base. *Petals* white or pale red. *Fruit* globular, black.

This species is sometimes found, by Mr. Borrer, with heart-shaped *leaflets*, which may further justify my referring *cordifolius* to *rhamnifolius*.

5. R. *glandulosus*. Glandular Bramble.

Stems angular; branches and footstalks hairy, with glandular bristles interspersed. Prickles deflexed, partly hooked. Leaflets five or three, downy beneath. Panicle and calyx very prickly and hairy, with copious glandular bristles.

R. glandulosus. *Bellardi Append. ad Fl. Pedem. in Mem. Acad. Taurin. v.* 5. 230. "*DeCand. Fr. v.* 4;" on the authority of the author.

R. Idæi varietas. *Reynier MS.*

In woods, thickets, and hedges.

In Sir Michael le Fleming's woods at Rydall, Westmoreland, where no other *Rubus* grows. *Mr. D. Turner.* Common in Sussex. *Mr. Borrer.* As common in Essex. *Mr. E. Forster.* Near Newbury. *Mr. Bicheno.*

Shrub. *July, August.*

The barren *shoots* of this species, which neither Dr. Bellardi, nor Professor DeCandolle, perhaps, has examined, bear *leaves* with 5 ovate, acute, stalked *leaflets;* those eminent botanists describe the *leaves* as all ternate, which is the case with those of the flowering *stems* only. All the *stems* are angular, furrowed towards the top, and, as Mr. Borrer observes, "nearly as stout at the base as those of *R. fruticosus,* but not so tall." All are copiously beset with scattered, unequal, deflexed, partly hooked *prickles,* and in the upper part with glandular *bristles.* The *prickles* of the *footstalks* and ribs of the leaves are plentiful, and strongly hooked. *Leaflets* on the flowering stems rather obovate, and more jagged; all the *leaflets* are bright green and smooth above; paler and downy beneath, but not hoary except when very young. *Stipulas* very narrow. *Panicle* somewhat corymbose, not elongated; its lower branches spreading horizontally; all the general as well as partial *stalks* are clothed with numerous, partly hooked prickles, abundance of shaggy hairs, and of straight, unequal, glandular-tipped, viscid bristles. The *calyx* is also hairy, copiously glandular, and more or less armed with straight prickles. The last character, and the prominent glandular bristles of the branches, panicle and calyx, mark this species well, and prevent its being confounded with any variety of the *leucostachys,* whose glands are minute, and sunk amongst its hoary pubescence. The *calyx* of *R. glandulosus* sometimes, when extremely prickly, terminates in leafy points. *Petals* white, narrower than in any of the foregoing. *Fruit* black, of numerous, rather small, *grains;* its *calyx* reflexed.

My Swiss specimen, gathered by M. Favrod, exactly accords with our English ones in all the above marks. Yet M. Reynier, to whom it was sent, considered it as a variety of the Common Raspberry, *R. Idæus,* and wrote a history of it, to that effect, for his *Memoires* on the Natural History of Switzerland, of which one volume only seems to have been published. It is difficult to imagine the grounds on which his opinion could be founded. My excellent friend Professor DeCandolle first determined the synonym of Bellardi, who quotes, with doubt, but perhaps justly, *R. hybridus* of Villars, *Dauph. v.* 3. 559.

6. R. *nitidus.* Smooth Shining Bramble.

Stems obtusely angular, spreading, smooth. Prickles hooked. Leaflets five or three, somewhat hairy beneath. Panicle and calyx sparingly prickly, without bristles.

R. nitidus. *Weihe and Nees Rub. Germ.* 17. *t.* 4.

R. major, fructu nigro. *Schmid. Ic. t.* 2; according to Weihe and Nees.

In thickets and woods, not rare.

On Snelsmore Common, near Newbury. *Mr. Bicheno.* In St. Leonard's forest, Sussex (also in Normandy). *Mr. Borrer.* In Shropshire. *Rev. E. Williams.*

Shrub. *July, August.*

A slender straggling plant, with no hoariness, except about the edges and inside of the *calyx*. The *prickles* of every part are strongly hooked. *Stems* reddish, with obsolete or blunt angles, few or no hairs, and no glandular bristles. *Leaves* bright green and shining on their upper side; paler and minutely hairy, but not hoary, with strong prickly midribs, and straight parallel transverse ribs, beneath; all pointed, sharply serrated; those on the barren *stems* of 5 *leaflets*, somewhat pedate; the rest of 3. The flowering *stems* are numerously branched. *Panicles* simple, or slightly compound, sometimes aggregate, all erect, with slender hairy stalks, and a few strong scattered *prickles*, (in Mr. Williams's specimens chiefly at the base,) but no *bristles*, nor *glands*. *Bracteas* lanceolate, partly fringed. *Cal.* bearing a few prickles, hairy, scarcely glandular or viscid, spreading, not strongly reflexed, and sometimes becoming subsequently inflexed. *Pet.* broadish, white or pink. *Fruit* black and shining, of large but few *grains*. The authors of the *Rubi Germanici* indicate two varieties of this species, one with rose-coloured *flowers*, and acid *fruit*; the other with white *flowers*, and a sweet *fruit*. The latter is judged by them to be Schmidel's plant, cited in *Fl. Brit.* as my *corylifolius*. I rely on their better opportunities of information. No living specimens of *R. nitidus* have come under my observation.

7. R. *affinis*. Ovate Hairy Bramble.

Stems angular, reclining, nearly smooth. Prickles hooked. Leaflets five, three, or solitary, ovate-heart-shaped, pointed; loosely hairy beneath. Panicle hairy and prickly. Calyx hoary, unarmed.

R. affinis. *Weihe and Nees Rub. Germ.* 16. *t.* 3 *and t.* 3. *b.*

In woods, hedges, and bushy places.

In a lane at Hartfield, Sussex; also in Epping forest. *Mr. E. Forster.*

Shrub. *July, August.*

Most nearly related to the last, as Dr. Weihe observes. He compares it also to the second species, *R. plicatus*, on account of some slight undulation, not always very evident, in the central *leaflet*. It is distinguished from *R. nitidus* by its hairy, or hoary, sometimes densely downy, *panicle*, and much more

hoary *calyx*, the latter being destitute of prickles. The *leaflets* also are larger, more pliant, and finely hairy or downy on both sides in some degree, though scarcely ever hoary. The *prickles* are all hooked. *Stem* purplish, a little hairy in the old part; the *branches* much more so, and rather acutely angular. *Panicle* more or less compound and corymbose, apparently somewhat glutinous, but not evidently glandular, nor at all bristly. *Calyx* hoary all over, destitute of prickles and glands, moderately reflexed, sometimes finally recurved over the *fruit*, which is of a blueish black. *Petals* white.

I find nothing to ascertain this as the *R. fruticosus* of *Linn. Fl. Suec.* which Weihe and Nees suspect it to be; neither can I positively controvert that opinion. The species requires further investigation.

8. R. *suberectus*. Red-fruited Bramble.

Stems angular, ascending, smooth; branches roundish. Prickles deflexed. Leaflets five, three, or seven, ovate-heart-shaped, pointed, minutely hairy beneath. Clusters simple, hairy, prickly, on lateral leafy branches. Calyx slightly hairy, unarmed.

R. suberectus. *Anderson Tr. of L. Soc. v.* 11. 218. *t.* 16. *Engl. Bot. v.* 36. *t.* 2572. *Comp.* 79. *Hook. Scot.* 159.

R. nessensis. "*Hall Tr. of R. Soc. Edinb. v.* 3. 20."

R. fastigiatus. *Weihe and Nees Rub. Germ.* 14. *t.* 2?

In thickets and woods.

On the banks of Loch Ness. *Mr. W. Hall.* About the Devil's bridge, Cardiganshire, and in other parts of Wales, as well as in the highlands of Aberdeen and Perthshire, and in Dallow Gill, near Ripley, Yorkshire. *Mr. G. Anderson.* On the hills of Forfarshire. *Mr. G. Don, from himself.* At Frant, near Tunbridge Wells. *Mr. E. Forster.* In Ashdown forest, Sussex. *Mr. Borrer.*

Shrub. *July, August.*

The *stems*, as Mr. Anderson observes, are biennial, flowering the second year, and no more, like those of the Raspberry; they grow nearly upright, without any support, and are about 3 or 4 feet high, bluntly angular, brittle, reddish, leafy, destitute of hairs, but armed with scattered, deflexed, scarcely hooked, *prickles*, much smaller than in any of the foregoing species, and generally not above a line or two long; when larger they are dilated or elongated at the base. The flowering *stems* bear several lateral, alternate, spreading, simple or compound *branches*, whose *leaves* are ternate, the uppermost simple, each branch hairy, and more or less prickly, terminating in a long, simple, bracteated, hairy *cluster* of 10 or 12 large, white, upright *flowers*. *Bracteas* lanceolate, hairy, not hoary; sometimes cut

or lobed. *Flower-stalks* hairy, and sparingly glandular; the lower ones only sometimes bearing a prickle or two. *Cal.* densely woolly within, externally hairy, totally destitute of prickles; its segments moderately spreading while in flower, afterwards reflexed, but not closely. *Pet.* crumpled. *Berry* of a rather small number of dark red, or blood-coloured, not purple, *grains*, said to be agreeably acid, with some flavour of the Raspberry, ripening later than that fruit, and it is therefore recommended by Mr. Anderson as perhaps not unworthy of cultivation.

The *foliage* of this species is in one respect peculiar. Some of the *leaves* on the barren stems, though generally of 5 *leaflets*, the 2 lowermost of which are quite sessile, are often furnished with a pair of similar small leaflets on the central stalk, below the terminal one, so that the whole *leaf* is partly digitate, partly pinnate, combining the foliage of the Bramble and the Raspberry. The *leaflets* are all of a deep green, ovate, or heart-shaped, pointed, sharply serrated; quite smooth above; paler, with hairy ribs and veins, beneath. *Stipulas* linear-lanceolate. *Footstalks* sparingly and minutely prickly.

I have confined my description entirely to British native specimens. The *R. fastigiatus* of Weihe and Nees agrees well with our plant, and those authors notice a near approach to the peculiar form of the *leaves*, "the middle *leaflet* being sometimes deeply divided into 3 parts." But they describe the *fruit* of "a deep shining black," which seems an essential difference; and they most unaccountably refer the plant of *Engl. Bot.* to their *nitidus*, to which I am very sure it bears very little relationship, that species having black *berries*, sharp strongly-hooked *prickles*, a compound *panicle*, and a great difference of habit.

My references to the *Rubi Germanici* will be found not always to agree with the pages of that work, which, however excellent in more important particulars, is singularly erroneous in numerical matters; nor does its synonymy on the whole seem so masterly as the plates and descriptions. Pollich's description of *R. fruticosus*, so indiscriminately laboured, conveys no precise ideas to my mind of the present species, though the able writers just mentioned are of a different opinion. I regret that their work goes no further at present than *R. tomentosus*; a curious species, not yet found in Britain, remarkable for the softness of its *leaves*.

** *Stems shrubby, round.*

9. R. *idæus*. Raspberry.

Stems round, erect, smooth, with downy branches; their prickles straight and slender. Leaves pinnate, of five or three, ovate, rather angular leaflets, very downy beneath.

Clusters prickly, somewhat compound. Flowers pendulous.

R. idæus. *Linn. Sp. Pl.* 706. *Willd. v.* 2. 1081. *Fl. Br.* 541. *Engl. Bot. v.* 34. *t.* 2442. *Woodv. t.* 138. *Hook. Scot.* 159. *Fl. Dan. t.* 788. *Ger. Em.* 1272. *f. Matth. Valgr. v.* 2. 357. *f. Clus. Hist. v.* 1. 117. *f. Dalech. Hist.* 123. *f. Camer. Epit.* 752. *f.* bad. *Ehrh. Arb.* 26.

R. n. 1108. *Hall. Hist. v.* 2. 41.

R. idæus spinosus, fructu rubro. *Raii Syn.* 467. *Bauh. Hist. v.* 2. 59. *f.*

In mountainous woods and thickets.

Plentiful in Wales, Scotland, and the north of England. On woody hills between Norwich and Thorpe, truly wild. Mr. Borrer finds it abundantly in some of the forests of Sussex.

Shrub. *May; June.*

Root creeping. *Stems* biennial, erect, 3 or 4 feet high, branched, round, pale or purplish, more or less besprinkled with small, straight, slender *prickles,* frequently rather resembling *bristles,* sometimes said to be altogether wanting; the young leafy flowering-branches are downy and simple. *Leaves* pinnate, with 2 pair of lateral leaflets and a larger terminal one; those of the upper or flowering branches usually ternate only; all the *leaflets* ovate, acute, serrated, or cut and angular; green and nearly smooth above; clothed beneath with white cottony down; their ribs slightly prickly. *Footstalks* downy and prickly, with a longitudinal furrow. *Stipulas* narrow, united laterally to the footstalks. *Fl.* small, white, pendulous, in drooping, terminal, mostly simple, *clusters,* whose *stalks* are furnished with hooked prickles, such as are now and then found on the downy wide-spreading *calyx. Petals* narrow, erect. *Fruit* crimson, of numerous juicy *grains,* beset with the permanent *styles,* and highly fragrant, with a very deliciously perfumed sweet and acid flavour, more exquisite in the wild state, in general, than when cultivated. There are several garden varieties, one with a pale amber-coloured *fruit,* and another which bears late in autumn.

10. R. *corylifolius.* Hazel-leaved Bramble.

Stems round, spreading; barren ones somewhat angular. Prickles scattered, straight, deflexed. Leaflets five or three, roundish-heart-shaped; finely hairy beneath. Panicle minutely glandular, as well as the reflexed calyx.

R. corylifolius. *Fl. Br.* 542. *Engl. Bot. v.* 12. *t.* 827. *Comp.* 79. *Anders. Tr. of L. Soc. v.* 11. 219. *Hook. Scot.* 160.

R. fruticosus. *Ehrh. Pl. Off.* 415. *Hoffm. Germ. for* 1800. 231; according to the author.

In hedges and thickets frequent.

Shrub. *July.*

Stems biennial; the barren ones very long and trailing, unless accidentally supported, sometimes arching, glaucous and purplish; green in the shade; they are brittle and full of pith, generally with 5 slightly prominent angles, and besprinkled with copious, rather small, *prickles*, placed without any order and not confined to the angles, all very nearly straight, though a little deflexed. The flowering *stems* are round, more upright, not quite so prickly, throwing out abundance of young hairy leafy *branches*, terminating in nearly simple, corymbose, hairy and downy *panicles*, which are armed with straight *prickles*, and besprinkled with short glandular *bristles*. *Leaves* on the barren stems of 5 very large, broadly ovate, somewhat heart-shaped, pointed, sharply serrated *leaflets*, often precisely like hazel-leaves; peculiarly soft and minutely hairy, for the most part, beneath, though Ehrhart's specimen is almost smooth; the 2 lowermost nearly or quite sessile; the *prickles* of their *foot-stalks* and ribs moderately hooked: the *leaves* of the flowering branches are uniformly of 3 much smaller, more cut *leaflets*; all light green and very soft, not white or hoary, at the back. *Stipulas* and *bracteas* linear-lanceolate, often very narrow. *Fl.* large, white, earlier than most of the genus. *Cal.* hoary and hairy, dotted with minute, scarcely prominent, glands, often prickly at the base, spreading in the flower, reflexed when in *fruit*. *Berry* large, agreeably acid, of larger and fewer grains than in *R. fruticosus*, and of a browner black, ripened before that of the *fruticosus* and its allies.

The late Mr. G. Anderson, an excellent observer, found the barren stems of this species taking root at the extremity, as often as those of *R. fruticosus*. That this accident however is not very general in either, appears from the anxiety with which country nurses and quacks seek it out, in order to cure children of the whooping cough, by drawing them through the arch thus formed by the stem of a Bramble. The *glands* on the *calyx* and *flower-stalks* of *R. corylifolius*, though not hitherto noticed, distinguish it from *fruticosus* as essentially as the scattered straight *prickles* of the stem, or any other mark whatever. These *glands* nearly agree with *R. leucostachys*, as do the straight *prickles* of the *panicle*.

11. R. *cæsius*. Blue Bramble, or Dew-berry.

Stems prostrate, round, glaucous, prickly and bristly. Prickles deflexed. Leaflets three; hairy beneath; lateral ones lobed externally. Calyx embracing the fruit.

R. cæsius. *Linn. Sp. Pl.* 706. *Willd. v.* 2, 1084. *Fl. Br.* 542. *Engl.*

Bot. v. 12. *t.* 826. *Hook. Scot.* 160. *Bull. Fr. t.* 381; calyx erroneous. *Fl. Dan. t.* 1213. *Ehrh. Arb.* 95.

R. n. 1110. *Hall. Hist. v.* 2. 43.

R. minor, fructu cæruleo. *Raii Syn.* 467. *Bauh. Hist. v.* 2. 59. *f.* bad.

R. repens, fructu cæsio. *Bauh. Pin.* 479. *Goodyer in Ger. Em.* 1271.

R. minor. *Dod. Pempt.* 742. *f.*

In woods, bushy places, under hedges, and in the borders of fields. Shrub. *June, July.*

The *stems* are trailing, prostrate, weak, round, glaucous, leafy, armed with copious, deflexed, unequal, slender, bristly *prickles*. *Leaves* of 3 ovate, acute, doubly serrated *leaflets*, downy beneath; some of the almost sessile lateral ones, on the fertile as well as barren stems, are deeply lobed at the outside. *Footstalks* with a few small *prickles*, rather deflexed than hooked. *Stipulas* variable, mostly very narrow. *Panicles* corymbose, of a few white, or blush-coloured, *flowers*; their *stalks* beset with straight deflexed *prickles*, and generally with plenty of glandular *bristles*, more prominent than in the last. The *calyx* also, sometimes very prickly, is covered with similar projecting bristles, and its segments, which are considerably pointed, close over the ripe *fruit*, whose *grains* are few, large, juicy, black, with a fine glaucous bloom, and very agreeably acid. *Seeds* large, compressed, deeply pitted.

This is a variable species, often approaching some varieties of the last, and sometimes having 5 *leaflets*, as Mr. G. Anderson records under his account of the *corylifolius*, *Tr. of L. Soc. v.* 11. 220; while on the other hand, "small specimens occur in chalky thickets," as Mr. Borrer observes, "which at first sight strikingly resemble *R. saxatilis*." These species are, nevertheless, perfectly distinct.

Bohemian specimens of the *R. nemorosus* of Hayne, sent by a learned and experienced traveller, Mr. Sieber, are certainly in part *cæsius*, though one of them approaches *corylifolius*, except having much smaller *leaves*, and angular *flowering-branches*.

*** *Stems herbaceous.*

12. R. *saxatilis*. Stone Bramble.

Leaflets three. Stems ascending, slightly prickly, herbaceous, with prostrate runners. Panicle with few flowers. Calyx of the fruit converging, without prickles or glands.

R. saxatilis. *Linn. Sp. Pl.* 708. *Willd. v.* 2. 1088. *Fl. Br.* 544. *Engl. Bot. v.* 32. *t.* 2233. *Hook. Scot.* 161. *Fl. Dan. t.* 134. *Ger. Em.* 1273. *f.*

R. n. 1111. *Hall. Hist. v.* 2. 43.

R. saxatilis alpinus. *Clus. Pan.* 115. *f.* 116. *Hist. v.* 1. 118. *f.*
R. alpinus humilis. *Bauh. Hist. v.* 2. 61. *f.*
Chamærubus saxatilis. *Bauh. Pin.* 479. *Raii Syn.* 261.

In dry stony mountainous woods, especially in Scotland, and the north of England.
Perennial. *June.*
Root rather woody. *Herb* of a light green, slightly downy or hairy, not hoary, throwing out a few very long, round, trailing runners, either naked or leafy, taking root at the extremity, where they, in the following spring, send up one or two simple herbaceous flowering *stems*, from 3 to 6 inches high, which are angular, slightly hairy, and often armed with a few small, weak, spreading *prickles*. These *stems* bear 2 or 3 alternate, long-stalked, ternate, serrated or notched *leaves*, not unlike those of a Strawberry, the mode of growth of the two plants being also very similar. *Stipulas* elliptic-oblong. *Panicle* terminal, corymbose, simple, downy, seldom a little prickly, of 3 or 4 upright, small, greenish-white *flowers*. *Cal.* angular at the base; its segments oblong, downy within, externally somewhat hairy, but not at all prickly or glandular; spreading in the *flower*; inflexed, but not closely, in the *fruit*; which consists of 1, 2, or 3 large crimson *grains*, agreeably acid, but not perfumed. *Seeds* large, tumid, pitted, and elegantly wrinkled.
By the above description, it is evident that this species can never be confounded with any variety of the Dew-berry.

13. R. *arcticus*. Dwarf Crimson Bramble.

Leaflets three, bluntly serrated. Stem without prickles, bearing one or two solitary flowers. Petals roundish.

R. arcticus. *Linn. Sp. Pl.* 708. *Fl. Lapp. n.* 207. *ed.* 2. 170. *t.* 5. *f.* 2. *Willd. v* 2. 1088. *Fl. Br.* 544. *Engl. Bot. v.* 23. *t.* 1585. *Hook. Scot.* 161. *Curt. Mag. t.* 132. *Fl. Dan. t.* 488.
R. humilis, flore purpureo. *Buxb. Cent.* 5. 13. *t.* 26; very bad.
R. trifolius humilis non spinosus, sapore et odore Fragariæ, fructu rubro polycocco, Rubo idæo simili. *Amm. Ruth.* 185.
R. humilis, Fragariæ folio, fructu rubro. *Rudb. It. Lapp.* 9. *Act. Suec.* 1720. 99.
Fragaria fruticans. *Rudb. Hort. Ups. ed.* 1. 17.

On stony mountainous moors, rare.
In rocky mountainous parts of the isle of Mull. *Rev. Dr. Walker.*
On Ben-y-glo, above Blair, Scotland. *Mr. Cotton.*
Perennial. *May, June.*
Roots slender, creeping, branched, but without runners. *Stems* herbaceous, erect or ascending, 3 or 4 inches high, leafy, angular, smooth, mostly simple and single-flowered. *Leaves* about 3 or 4, alternate, on rather long, channelled, slightly downy *footstalks*; each of 3 strawberry-like *leaflets*, strongly ribbed and broadly as well as bluntly serrated; smooth above; often

a little downy beneath. *Stipulas* elliptical, obtuse, erect. *Flower* crimson, on a solitary, simple, downy and minutely glandular *stalk*. Segments of the *calyx* lanceolate, spreading, downy, frequently more than 5. *Pet.* longer than the calyx, roundish, with a notch at the end; sometimes jagged, as represented in *Fl. Lapp.* *Stam.* club-shaped. *Berry* of several large grains, of a purplish amber colour, partaking of the flavour of the Raspberry and Strawberry, highly fragrant, and much esteemed in Sweden for making a kind of wine, reserved for the tables of the great. *Seeds* large, kidney-shaped, very obscurely wrinkled.

14. R. *Chamæmorus*. Mountain Bramble, or Cloudberry.

Leaves simple, plaited, lobed. Stem without prickles, simple, single-flowered. Segments of the calyx ovate.

R. Chamæmorus. *Linn. Sp. Pl.* 708. *Fl. Lapp. n.* 208. *ed.* 2. 173. *t.* 5. *f.* 1. *Willd. v.* 2. 1090. *Fl. Br.* 545. *Engl. Bot. v.* 10. *t.* 716. *Lightf.* 266. *t.* 13. *f.* 2. *Hook. Scot.* 161. *Lond. t.* 136. *Dicks. H. Sicc. fasc.* 2. 8. *Fl. Dan. t.* 1. *Ehrh. Phytoph.* 45.

R. humilis palustris, fructu ex rubro flavescente. *Rudb. It. Lapp.* 9. *Act. Suec.* 1720. 99.

Chamæmorus. *Raii Syn.* 260. *Ger. Em.* 1273. *f. also* 1630. *Clus. Pann.* 117. *f.* 118. *Hist. v.* 1. 118. *f.*

Chamærubus foliis ribes. *Bauh. Pin.* 480.

Vaccinia nubis. *Ger. Em.* 1420, (*not* 1396.) *f.* bad.

Morus Norvagica. *Tillands Ab.* 46. *Ic.* 159, good.

In turfy alpine bogs.

On the loftiest mountains of Scotland, Wales, and the north of England. It indicates slate on the moors, according to Mr. Bicheno.

Perennial. *June.*

Roots slender, creeping extensively, much branched, sending up several herbaceous, simple, leafy, single-flowered, downy *stems*, near a span high. *Leaves* stalked, heart-shaped, plaited, 5-lobed, rugged, sharply serrated; a little hairy beneath. *Stipulas* oval, obtuse. *Fl.* white. *Cal.* downy externally only; partly notched. *Pet.* elliptical. *Barren fl.* with rudiments of *pistils; fertile* ones on separate stems, (though, according to Dr. Solander, from the same *roots*,) with rudiments of *stamens*, as described in *Fl. Br.* and delineated by Professor Hooker. *Fruit* large, tawny, agreeably acid and mucilaginous, with the flavour of tamarinds. The hard *outer coat* of the *seed* is slightly rugged, very minutely dotted; *inner* more conspicuously so, according to Dr. Hooker, who represents the rudiments of 2 *kernels*, in one seed, which, if constant, might more probably prove the seeds to be *nuts*, and the grains *drupas*, than any

thing I have said to the contrary in the generic character. Yet there may be 2 *kernels* in one *testa*, as well as 2 yolks, by accident, in one egg.

256. FRAGARIA. Strawberry.

Linn. Gen. 255. *Juss.* 338. *Fl. Br.* 546. *Sm. in Rees's Cycl. v.* 15. *Tourn. t.* 152. *Lam. t.* 442. *Gærtn. t.* 73.

Nat. Ord. see *n.* 254.

Cal. inferior, of 1 leaf, flat, permanent; limb in 10 deep segments, 5 alternate ones external and smallest. *Pet.* 5, roundish, spreading, attached to the rim of the calyx by their short claws, opposite to its outer segments. *Filam.* 20, from the rim of the calyx, awl-shaped, erect, shorter than the corolla, permanent. *Anth.* roundish, incumbent, of 2 cells, deciduous. *Germens* superior, numerous, roundish, small, collected into a round head. *Styles* 1 to each germen, lateral, short, incurved, permanent. *Stigmas* simple, obtuse. *Berry* spurious, formed of the enlarged *receptacle* of the *seeds*, become pulpy, coloured, ovate or roundish, abrupt at the base, finally deciduous. *Seeds* numerous, naked, scattered over the surface of the berry, roundish-ovate, acute, smooth and even.

Herbs more or less hairy, with trailing *runners*, and short erect flowering *stems*. *Leaves* ternate, rarely simple, strongly serrated, somewhat plaited. *Stipulas* in pairs united to the base of each *footstalk*. *Fl.* imperfectly panicled, white. *Fruit* red, varying to a yellowish white, fragrant and delicious; to most people very wholesome; to some few an absolute poison. The word *mostly* should be expunged from the second line of *p.* 353.

Dr. Nestler of Strasburgh, a recent writer of great merit, has, in a Monograph on *Potentilla*, applied the name of *bracteas* to the 5 outer segments of the *calyx*, in these genera and their allies. Mr. Seringue, and the present Mr. Haller, have done the same. But *bracteas* belong properly to the *inflorescence*, not to the *fructification*; and these outer segments differ in no respect from the inner, except a more leafy texture, in which they exactly agree with the *leaflets*, or *pinnæ*, of the *calyx-segments* in *Rosa*, which it would be absurd to call *bracteas*, and which actually prove the parts in question not to be such. Dr. Nestler moreover follows several recent botanists of high rank in denominating the *seeds* of these plants

akenia; for it seems the French school at present do not allow the existence of any naked *seeds*. This is an old subject of dispute, and is chiefly a difference of words. Every *seed*, though it may not have a *pericarp*, must be protected by an integument, which is its *testa*, or *skin*; see *Introd. to Botany*, *f.* 4; and in that sense indeed no *seed* is naked. But the *testa* differs in texture and configuration, in plants which have a *seed-vessel*, as well as in others that have none. I agree with those physiological botanists, of whom it is abundantly sufficient to name Linnæus, Jussieu and Gærtner, who admit of naked *seeds* in Grasses, *Umbellatæ*, the *Didynamia Gymnospermia*, and many others.

1. F. *vesca*. Wood Strawberry.

Calyx of the fruit reflexed. Hairs of the footstalks widely spreading; those of the partial flower-stalks close-pressed, silky.

F. vesca. *Linn. Sp. Pl.* 708. *Willd. v.* 2. 1090. *Fl. Br.* 546. *Comp.* 79. *Rees's Cycl. n.* 1. *Engl. Bot. v.* 22. *t.* 1524. *Hook. Scot.* 162.
F. vulgaris. *Bauh. Pin.* 326. *Ehrh. Beitr. v.* 7. 21. *Pl. Off.* 425.
F. n. 1112. *Hall. Hist. v.* 2. 44.
Fragaria. *Raii Syn.* 254. *Ger. Em.* 997. *f.* 1. *Brunf. Herb. v.* 2. 35. *f.* *Camer. Epit.* 765. *f.* *Dalech. Hist.* 614. *f.* *Trag. Hist.* 500. *f.*
Fraga altera. *Dod. Pempt.* 672. *f.*
Fragula. *Cord. Hist.* 173. 2. *f.*
Common Strawberry. *Pet. H. Brit. t.* 40. *f.* 7.
β. Fragaria fructu hispido. *Ger. Em.* 998. *Raii Syn.* 254.
F. spinoso fructu. *Barrel. Ic. t.* 90.

In groves and thickets common.
Perennial. *May*, *June*.

Root rather woody, blackish, with many fibres, and sending forth several long, trailing, hairy *runners*. These fix themselves at intervals by fresh radicles, by which the plant is widely propagated. *Stems* 4 or 5 inches high, erect, slightly leafy, clothed with soft spreading hairs; panicled, or somewhat cymose, at the top. *Leaves* mostly radical, on long channelled *footstalks*, which are rough with spreading hairs; 2 lateral *leaflets* unequal at the base. *Fl.* erect; their *common stalks* clothed with copious spreading hairs; *partial ones* with erect, or close-pressed, silky pubescence. This character, constant in dry as well as recent specimens, is expressed by apparent smoothness of these partial stalks, in the wooden cuts to which I have referred. *Fruit* drooping, deep scarlet, gratefully acid and aromatic, esteemed by Linnæus very salutary for gouty constitutions. But he seems to have conceived this opinion chiefly from observing the effect of Strawberries in removing tartar from the teeth.

2. F. *elatior*. Hautboy Strawberry.

Calyx of the fruit reflexed. Hairs of the footstalks, and of all the flower-stalks, widely spreading, somewhat deflexed.

F. elatior. *Ehrh. Beitr. v.7.23. Willd. Sp. Pl v.2.1091. Rees's Cycl. n.4. Engl. Bot. v.31. t.2197. Comp.79. Hook. Scot.162?*
Fragaria. *Lob. Ic.697.f.1. Ger. Em.997.f.2, not the description. Dod. Pempt.672.f.1. Lonic. Kreuterb.242.f.*
F. major et minor. *Fuchs. Hist.853.f.*

In groves in the south of England, but rare.
In a wood to the west of Tring, Hertfordshire, certainly wild, first noticed, I believe, by the late Mr. Dickson. In Charlton forest, Sussex, *Mr. Borrer.*
Perennial. *June—Sept.*
Larger than the foregoing, and rather more hairy in every part. The essential difference consists in the long, wide-spreading, or considerably deflexed, hairs of all the *flower-stalks,* as well as *footstalks.* This is liable to no variation or uncertainty, when properly observed. Ehrhart first used it for specific discrimination, and has distinguished all the real species of Strawberry, which Linnæus confounded, by analogous marks. The *flowers* of *F. elatior* are generally, but not always, imperfectly diœcious; those on one plant having the *stamens* most effectual, whilst another bears the most complete *pistils.* A garden variety, noticed in Rees's *Cyclopædia,* is supposed always to bear perfect flowers; but this is not generally the case with the cultivated plant. The *fruit* is the true Hautboy, known by its larger size, dark hue, and peculiar musky flavour. I have never seen it wild.
F. sterilis of Linnæus and *Fl. Brit.* is removed to the next genus.

257. POTENTILLA. Cinquefoil.

Linn. Gen 255. *Juss.* 338. *Fl. Br.* 547. *Lam. t.*442. *Nestl. Potent. t.*1.
Quinquefolium. *Tourn. t.*153.
Pentaphyllum. *Gærtn. t.*73.

Nat. Ord. see *n.* 254.

Cal. inferior, of 1 leaf, flattish, permanent; limb in 10 deep segments, 5 alternate ones external, and narrowest. *Pet.* 5, roundish, or heart-shaped, spreading, opposite to the external segments of the calyx, and attached by their short claws to its rim. *Filam.* about 20, from the rim of the calyx, awl-shaped, erect, shorter than the corolla. *Anth.* roundish, incumbent, of 2 cells. *Germ.* superior, numerous, roundish, small, collected into a round head. *Styles* thread-shaped, 1 to each germen, lateral, ascending, permanent. *Stigmas* bluntish, downy. *Seeds* numerous,

naked, roundish, generally more or less wrinkled, covering the surface of a small, dry, globular, permanent, unaltered *receptacle*, to which each is laterally attached, below the insertion of its style.

Mostly perennial; rarely shrubby. *Leaves* alternate; pinnate, digitate, or ternate; for the most part deeply serrated, or cut. *Stipulas* in pairs, united to the base of each *footstalk*. *Fl.* terminal and aggregate, rarely axillary and solitary; scentless, yellow, more rarely white, very seldom reddish, never blue. Qualities astringent.

* *Leaves pinnate.*

1. P. *fruticosa*. Shrubby Cinquefoil.

Leaves pinnate, entire, hairy. Stem shrubby.

P. fruticosa. *Linn. Sp. Pl.* 709. *Willd. v.* 2. 1094. *Fl. Br.* 547. *Engl. Bot. v.* 2. *t.* 88. *Dicks. H. Sicc. fasc.* 6. 12. *Ehrh. Arb.* 135. *Nestl. Potent.* 30. *t.* 1, *bis. f.* A.

Pentaphylloides fruticosa. *Raii Syn.* 256. *Cat. Pl. Angl. ed.* 2. 228. *t.* 1. *Engl. Gard. Cat.* 54. *t.* 14.

P. rectum fruticosum Eboracense. *Moris. v.* 2. 193. *sect.* 2. *t.* 23. *f.* 5.

P. fruticosa elatior, minùs hirsuta. *Amm. Ruth.* 88. *t.* 17. *Herb. Linn.*

In mountainous thickets, but rare.

About Greta bridge, Mickle force, Egglestone abbey, and several other places in Teesdale. *Ray.* Found there abundantly by *Mr. Robson* and *Mr Bicheno.*

Shrub. *June.*

Stem bushy, woody, 3 or 4 feet high, leafy, with a deciduous cuticle. *Leaves* stalked; *leaflets* 5, rarely 7, oblong, acute, revolute, about an inch in length, clothed more or less densely with close hairs, especially at the edges; paler beneath; the 3 terminal ones confluent and decurrent: uppermost leaves ternate only. *Fl.* terminal, stalked, somewhat aggregate, large, of a golden yellow, copiously produced during summer and autumn, which recommends this shrub to the notice of cultivators in general. The outer segments of the *calyx*, taken by Dr. Nestler for *bracteas*, vary greatly in size and shape, and are sometimes cloven, as appears by my specimens from various countries. The two extremes may be seen in the figure in *Engl. Bot.*, and Dr. Nestler's *t.* 1, *bis*, *f.* A. I presume to think his *P. davurica* is but a variety; as *t.* 18. *f.* 1, of Amman is acknowledged to be. *P. Salesovii* of Willdenow is justly expunged by DeCandolle. A Siberian specimen in the Linnæan herbarium, of Amman's *t.* 17, sent by Gmelin, which in this case is the original authority, is just as hairy in the foliage as our Yorkshire plant, and nearly agrees in the calyx.

Duhamel in his *Arbres, v.* 2. *t.* 20, has given as a representation of *P. fruticosa*, the wooden cut of Valgrisius, which belongs to the widely different *P. argentea*; see that species.

2. P. *anserina*. Silver-weed, or Wild Tansy.

Leaves interruptedly pinnate, serrated, silky. Stem creeping. Stalks axillary, solitary, single-flowered.

P. anserina. *Linn. Sp. Pl.* 710. *Willd. v.* 2. 1095. *Fl. Br.* 547. *Engl. Bot. v.* 12. *t.* 861. *Curt. Lond. fasc.* 3. *t.* 31. *Hook. Scot.* 162. *Fl. Dan. t.* 544. *Bull. Fr. t.* 157. *Nestl. Potent.* 35. *Hall. jun. in Ser. Mus. v.* 1. 56.

Potentilla. *Bauh. Pin.* 321. *Matth. Valgr. v.* 2. 364. *f. Camer. Epit.* 758. *f. Fuchs. Hist.* 619. *f. Tillands Ic.* 45. *f.*

Pentaphylloides, Argentina dicta. *Raii Syn.* 256.

P. minus supinum, seu procumbens, foliis alatis argenteis et serratis, flore luteo. *Moris. v.* 2. 193. *sect.* 2. *t.* 20. *f.* 4.

Anserina. *Trag. Hist.* 479. *f.* 480.

Argentina. *Dod. Pempt.* 600. *f. Ger. Em.* 993. *f. Lob. Advers.* 308. *Obs.* 395. *f. Ic.* 693. *f.*

Fragaria n. 1126. *Hall. Hist. v.* 2. 51.

In osier holts and spongy meadows, frequent.

Perennial. *June, July.*

Root tapering. *Stems* several, procumbent, trailing to a great extent, round, smooth, taking root at their joints, where also they produce leaves and flowers. *Leaves* from 3 to 6 inches long, interruptedly pinnate, in a somewhat lyrate manner, deeply and sharply serrated; clothed most abundantly beneath with splendid silvery hairs; the upper side deep green, either smooth or hairy. *Fl.* large, bright yellow, each on a long simple *stalk*, mostly erect. *Cal.* hairy; its outer segments generally notched at each side, approaching in that respect to *Fragaria indica* of authors, *Nestl. Potent.* 21. See *Duchesnea, Rees's Cycl. v.* 39. *suppl. Germens* very hairy. *Seeds* seldom perfected.

Dr. Nestler's citation of Lobel, *Hist.* 39, which Mr. Haller jun. copies, has cost me no small pains to unravel. Morison's plant is not a variety.

It is this species which, according to Linnæus, indicates clay under the surface, and not *P. argentea*. Mr. Rose in his Elements of Botany 382, was misled by the name *Argentina*.

3. P. *rupestris*. Strawberry-flowered Cinquefoil.

Leaves lyrate-pinnate; leaflets seven, five, or three, ovate, serrated, hairy. Stem erect.

P. rupestris. *Linn. Sp. Pl.* 711. *Willd. v.* 2. 1097. *Fl. Br.* 548. *Engl. Bot. v.* 29. *t.* 2058. *Jacq. Austr. t.* 114. *Nestl. Potent.* 39. *Hall. jun. in Ser. Mus. v.* 1. 50. *Ser. Mus. v.* 1. 65. *t.* 6.

Pentaphylloides erectum. *Bauh. Hist. v.* 2. 598 d. *f. Raii Syn.* 255.

P. majus erectum, flore albo, foliis alatis et hirsutis. *Moris. v.* 2. 192. *sect.* 2. *t.* 20. *f.* 1.

Pentaphyllum fragiferum. *Ger. Em.* 991. *f.*

Quinquefolium fragiferum. *Bauh. Pin.* 326. *Clus. Hist. v.* 2. 107. *f.*

Fragaria n. 1127. *Hall. Hist. v.* 2. 51.
Upright Welsh Cinquefoil. *Pet. H. Brit. t.* 41. *f.* 6.

On shady alpine rocks in Wales, very rare.
On the sides of a hill called Craig Wreidhin, or rather Breddin, Montgomeryshire, found by Mr. Lhwyd. *Ray.* Gathered there June 29, 1817, by Mr. J. E. Bowman.
Perennial. *June.*
Root somewhat woody, tapering, with numerous fibres. Whole *herb* more or less hairy. *Stem* a foot high, erect, round, reddish, leafy, corymbose and many-flowered. *Leaves* pinnate in a lyrate manner, deep green, unequally cut and serrated; the radical ones largest, on long *footstalks;* their *leaflets* 7; those of the upper leaves 5, or 3. *Fl.* much resembling the blossoms of Garden Strawberries, large, white, in a forked corymbose panicle. *Cal.* after flowering enlarged, spreading, brown and membranous. *Seeds* neither hairy nor wrinkled, on a very hairy or bristly *receptacle.*

** *Leaves digitate.*

4. P. *argentea.* Hoary Cinquefoil.

Leaflets five, wedge-shaped, jagged; downy beneath. Stem ascending.

P. argentea. *Linn. Sp. Pl.* 712. *Willd. v.* 2. 1101. *Fl. Br.* 549. *Engl. Bot. v.* 2. *t.* 89. *Hook. Scot.* 162. *Fl. Dan. t.* 865. *Nestl. Potent.* 48.
Pentaphyllum rectum, foliis profundè sectis subtùs argenteis, flore luteo. *Bauh. Hist. v.* 2. 398. c. *f. Raii Syn.* 255.
P. album. *Matth. Valgr. v.* 2. 367. *f;* put by Duhamel for *P. fruticosum.*
Quinquefolium folio argenteo. *Bauh. Pin.* 325.
Q. Tormentillæ facie. *Ger. Em.* 988. *f.*
Q. minus. *Camer. Epit.* 760. *f. Fuchs. Hist.* 625. *f.*
Fragaria n. 1124. *Hall. Hist. v.* 2. 50.

In pastures on a gravelly soil.
Perennial. *June, July.*
Root rather woody. *Stems* several, erect, or nearly so, from 6 to 12 inches high, leafy, round, cottony, occasionally branched. *Leaves* stalked, of 5 narrow, deeply serrated or cut *leaflets;* green above; cottony and snow-white beneath, like the *calyx. Fl.* small, yellow, numerous, in a white, cottony, corymbose *panicle. Seeds* numerous, small, smooth and even.

5. P. *alpestris.* Orange Alpine Cinquefoil.

Radical leaves of five wedge-shaped, somewhat hairy, leaflets; deeply cut in their upper half. Upper stipulas ovate. Petals heart-shaped. Stems ascending.

P. alpestris. *Hall. jun. in Ser. Mus. v* 1. 53.
P. salisburgensis. *Hænke in Jacq. Coll. v.* 2. 68. *Ic. Rar. t.* 490.
P. aurea. *Fl. Br.* 549. *Engl. Bot. v.* 8. *t.* 561. *Hook. Scot.* 163. *Fl. Dan. t.* 114. *Ser. Mus. v.* 1. 72. *t.* 8.
P. verna β. *Wahlenb. Lapp.* 146.
P. verna γ. *Nestl. Potent.* 52.
Fragaria n. 1119 β. *Hall. Hist. v.* 2. 48.

On mountains in Scotland, the north of England, and Wales.
On Ben Lawers, and other mountains in Bredalbane. *Mr. J. Mackay.* In the county of Durham. *Rev. Mr. Harriman.* On rough stony ground at Hafod, Cardiganshire.
Perennial. *July.*
Root rather woody, greatly subdivided at the crown, bearing numerous *stems*, which are decumbent at the base, then ascending, from 4 to 8 or 10 inches high, branched, leafy, loosely hairy, somewhat compressed. *Radical leaves* on long, loosely hairy, *footstalks; leaflets* 5, very rarely 7; more or less clothed with long, coarse, spreading hairs; all wedge-shaped, entire in their lower half; in the upper deeply cut, almost palmate, the segments bluntish, broad and distant, generally unequal; the lower pair smallest, most cut and dilated at their outer or lower margin: *stem-leaves* much smaller and nearly sessile, of 3 wedge-shaped, more deeply and acutely cut *leaflets*. *Stipulas* of the lowermost leaves narrow and united to the footstalks for about half their own length, then spreading, lanceolate, acute, entire; those of the stem-leaves shorter, ovate, sometimes cut, gradually diminishing to *bracteas*. *Flower-stalks* axillary and terminal, long, simple, hairy, not very numerous. *Calyx* externally hairy, its segments acute, somewhat unequal. *Pet.* as long as the calyx or longer, inversely heart-shaped, of an orange or tawny yellow. *Seeds* rather few, ovate, compressed, keeled, obscurely wrinkled. *Recept.* slightly hairy.
I am greatly obliged to my friend Mr. Haller jun. for correcting me on the subject of our British plant, always called *Potentilla aurea*, about which I have often had doubts. His illustrious father, it seems, confounded our plant with *verna*. So great an error may plead my excuse for mistaking it, as Linnæus himself at one time did, for the Linnæan *aurea*, Haller's *n.* 1122. *t.* 21. *f.* 4, which my wild British specimens nearly resemble. It is singular that some cultivated ones, whose roots came from Ben Lawers, should have helped to verify, beyond all doubt, the synonym of Hænke, whose figure in *Jacq. Ic. Rar.* strikingly accords with them, being taken from a very luxuriant, if not a garden, plant. *P. alpestris* is an extremely variable species; but the entire bases of its wedge-shaped *leaflets*, and the deep wide segments of their upper part, destitute of the silvery margin of *P. aurea*, are characteristic. The *stem* is represented too short in *Engl. Bot.*, as Wahlenberg well remarks; but the *leaves* are correct

Those in *Fl. Dan.* are less exact. I think however there can be no question about any of the synonyms given above. Mr. Seringue is not happy in his representation of the *leaflets*, at least of his cultivated specimen.

In reply to a question of this gentleman, in his *Mus. v.* 1. 73, I must observe that his *P. Halleri*, so admirably delineated in Haller's *Hist. t.* 21. *f.* 4, is the original authority for *P. aurea*, taken up by Linnæus without seeing a specimen, as his manuscript shows. In *Sp. Pl. ed.* 1, he had referred Haller's plant to *verna*. He long afterwards received from Seguier our present *P. alpestris*, which he marked *aurea*, and this might well mislead me. This specimen however he has no where described in his works. Some others of the same species he confounded, like Haller, with *verna*. I trust this manifold error will now be set at rest by the establishment of *P. alpestris*. Nestler has altogether misled Prof. Hooker respecting this and *P. opaca*.

6. P. *verna*. Spring Cinquefoil.

Radical leaves of five or seven, obovate-wedge-shaped, partly serrated, furrowed leaflets; bristly at the margins and ribs beneath. Upper stipulas dilated. Calyx-segments partly three-ribbed. Stems procumbent.

P. verna. *Linn. Sp. Pl.* 712. *Willd. v.* 2. 1104. *Fl. Br.* 550. *Engl. Bot. v.* 1. *t.* 37. *Dicks. H. Sicc. fasc.* 13. 19. *Hook. Scot.* 162. *Nestl. Potent.* 51. *Hall. jun. in Ser. Mus. v.* 1. 52. *Ser. Mus. v.* 1. 70. *Villars Dauph. v.* 3. 564.

Pentaphyllum parvum hirsutum. *Bauh. Hist. v.* 2. 398 a. *f. Raii Syn.* 255.

P. incanum minus repens. *Ger. Em.* 989. *f.*

Quinquefolium repens minus luteum. *Bauh. Pin.* 325; *according to his herbarium. Nestl.*

Q. minimum genus. *Trag. Hist.* 505. descr. good.

Q. quarti prima species. *Clus. Pann.* 428. *f.*

Q. quarti, flavo flore, secunda species. *Clus. Hist. v.* 2. 106. *f.*

Fragaria n. 1119 *α*. *Hall. Hist. v.* 2. 48.

F. verna. *Crantz Austr. fasc.* 2. 12. *t.* 1. *f.* 1.

Small Rough Cinquefoil. *Pet. H. Brit. t.* 41. *f.* 4.

In elevated pastures, and barren hilly ground.

Near Kippax, Yorkshire. *Rev. W. Wood.* About Bury, Suffolk. *Sir T. G. Cullum.* Cambridgeshire. *Relhan.* On St. Vincent's rocks, Bristol; and in the King's Park, Edinburgh.

Perennial. *April, May.*

Root woody, creeping. *Herb* often reddish. *Stems* several, spreading on the ground in circular patches often many inches wide, somewhat branched, leafy, round, hairy. *Radical leaves* on longish *footstalks* clothed with nearly upright straight hairs; *leaflets* 5, rarely 7, obovate or somewhat wedge-shaped, rigid

and coriaceous, strongly and acutely serrated, the terminal tooth smallest, as in the preceding and following species, green on both sides; the upper surface naked, appearing minutely granulated under a high magnifier, furrowed along the rib and veins; under somewhat paler, the margins and ribs beset with numerous coarse hairs: *stem-leaves* of 3 narrower leaflets; the uppermost nearly sessile and entire, often simple. *Stipulas* hairy, all combined with the footstalks; the lower ones narrowest and acute; upper broader and shorter, various in size, less remarkable than in the last. *Fl.* 2 or 3 at the upper part of each stem, on long, hairy, solitary, simple *stalks*. *Cal.* very hairy, and in some degree downy, its outer segments in some of my specimens very distinctly three-ribbed, but this character is not universal. I recommend it to future observation. *Pet.* somewhat heart-shaped, bright yellow, as long as the calyx, or longer. *Recept.* hairy. *Seeds* scarcely at all wrinkled.

All the above synonyms appear to me correct. There is a confusion between the two works of Clusius, and his figure here indicated, reprinted in Gerarde, is taken by Dr. Nestler for a good representation of *P. opaca*. It is but just to observe that Linnæus was of the same opinion. But the figure of Clusius to which Nestler refers as *verna*, has ternate leaves, and upright stems. Haller quotes *Quinquefolium tertium* of Clusius for an acute-leaved variety of *verna*; but this is certainly quite unlike our plant. I need not here refer to supposed varieties of this species, which are described by various foreign writers, but not known in Britain, nor do I perceive that any extraordinary difficulties attend our *verna*. In a garden it becomes very luxuriant, but the *stems* continue prostrate, and the outer segments of the *calyx* are either three-ribbed or not, on the same plant.

Dr. Nestler refers to *Engel. Bot. t.* 37, as if it were a work of Villars, and the plant were there named *serotina*; but this is the fault of his printer.

7. P. *opaca*. Saw-leaved Hairy Cinquefoil.

Radical leaves of seven hairy, linear-wedge-shaped leaflets, deeply serrated throughout; stem-leaves ternate, mostly opposite. Stems recumbent.

P. opaca. *Linn. Am. Acad. v.* 4. 274. *Syst. Nat. ed.* 10. *v.* 2. 1064. A. *Sp. Pl.* 713. *Willd. v.* 2. 1103. *Comp.* 80. *Engl. Bot. v.* 35. *t.* 2449. *Hook. Scot.* 162. *D. Don Tr. of Wern. Soc. v.* 3. 304. *Jacq. Coll. v.* 1. 33. *Ic. Rar. t.* 91. *Hall. jun. in Ser. Mus. v.* 1. 54. *t.* 4. *f.* 1. *Nestl. Potent.* 54.

On the mountains of Scotland.

Received from Scotland by the late Mr. Donn of Cambridge. Said to have been found on the hills of Clova, Angusshire, as well as in Perthshire, by Mr. G. Don.

Perennial. *June.*

Root woody, blackish, subdivided at the crown, and bearing numerous *leaves* during winter. In spring it puts forth several recumbent, slender, branched, hairy, many-flowered *stems*. *Radical leaves* on long hairy *footstalks*, with a pair of small, linear, or awl-shaped, hairy *stipulas* at their base; *leaflets* constantly 7, dark green, minutely granulated like the last, hairy, linear-wedge-shaped, or somewhat obovate, with a series of very numerous deep marginal serratures, the terminal one small, and the base of each leaflet only being narrow and entire; *stem-leaves*, except the very lowermost, ternate, frequently opposite, and nearly sessile, with broader, sometimes cloven, *stipulas*, of which the uppermost of all are replaced by oblong entire *bracteas*. *Fl.* numerous, on long, simple, solitary, axillary, or panicled and bracteated, downy, hairy *stalks*. *Cal.* hairy, its outer segments linear and narrow, as long as the rest. *Pet.* about the same length, bright yellow, orange-coloured towards the base. *Seeds* more or less corrugated.

Concerning Mr. Haller's plant, published by him, with a figure, in the valuable work of Mr. Seringue, I am perfectly certain, having like himself received it, in various states, from our common friend the late Mr. Davall. I cannot distinguish it from Jacquin's figure, and it is precisely the Scottish plant communicated by Mr. James Dönn, which has long remained unchanged, increasing plentifully, in my garden. The specimens in the Linnæan herbarium are less luxuriant, but certainly the same. These might induce Linnæus to quote the figure of Clusius, which I have now referred to *P. verna*. The small size attributed to the plant of Clusius, its flowering in the early spring, and its being so very abundant by road sides, and in dry open places, in Hungary, lower Austria, &c., with some points in the description, altogether answer to *verna*, one of the most common plants on the continent. Authors still appear not well acquainted with *P. opaca*, as they continue to speak of it as very near *verna*. A comparison of their figures in *Engl. Bot.*, both very faithful, may at least prevent this mistake.

8. P. *alba* White Cinquefoil.

Radical leaves of five elliptic-oblong leaflets; silky beneath; tipped with converging serratures. Stems thread-shaped, procumbent. Receptacle very hairy.

P. alba. *Linn. Sp. Pl.* 713. *Willd. v.* 2. 1106. *Fl. Br.* 551. *Engl. Bot. v.* 20. *t.* 1384. *Huds.* 224. *Jacq. Austr. t.* 115. *Nestl. Potent.* 58. *Hall. jun. in Ser. Mus. v.* 1. 50.

Pentaphyllon album. *Bauh. Hist. v.* 2. 398 d. *f.* 398 e.

Quinquefolium album majus alterum. *Bauh. Pin.* 325.

Q. Tragi. *Trag. Hist.* 507. *f.*

Q. album. *Camer. Epit.* 761. *f. Hall. It. Helv. sect.* 46.
Q. majus candidum. *Fuchs. Hist.* 623. *f. Ic.* 357. *f.*
Q. primum majus albo flore. *Clus. Hist. v.* 2. 105. *f.*
Q. sylvaticum majus, flore albo. *Ger. Em.* 989. *f.*

In mountainous woods.
In Wales, according to Mr. Haviland. *Hudson.* Not observed by any other person.
Perennial. *June, July.*
Root long and woody. *Stems* but little longer than the foliage, often shorter, procumbent, weak, slender, hairy, slightly branched, and somewhat leafy. *Radical leaves* on long hairy *footstalks,* with lanceolate, tawny, partially hairy *stipulas* at their base; *leaflets* 5; deep green and naked above; beautifully silky and silvery beneath; their margins entire, except a few acute crowded serratures at the extremity; *stem-leaves* few, smaller, ternate, nearly sessile. *Fl.* few, snow-white, on slender bracteated *stalks. Cal.* silky, its segments all nearly equal in length. *Seeds* reticulated with slightly elevated wrinkles. *Recept.* very hairy. From Swiss specimens.
This elegant species is only mentioned incidentally as a German plant, by Haller, in his *Iter Helveticum,* nor did he ever know of its being found in Switzerland. It was first discovered by the Rev. Mr. DuCros, in the wood of Prangins, and I have specimens from Mr. Davall.

9. P. *reptans.* Common Creeping Cinquefoil.

Leaflets five, obovate, serrated. Stem creeping. Stalks axillary, single-flowered.

P. reptans. *Linn. Sp. Pl.* 714. *Willd. v.* 2. 1108. *Fl. Br.* 551. *Engl. Bot. v.* 12. *t.* 862. *Curt. Lond. fasc.* 1. *t.* 37. *Woodv. t.* 59. *Hook. Scot.* 163. *Ehrh. Pl. Off.* 435. *Nestl. Potent.* 66. *Hall. jun. in Ser. Mus. v.* 1. 54. *Ser. Mus. v.* 1. 79. *Fl. Dan. t.* 1164.
Pentaphyllum vulgatissimum. *Raii Syn.* 255.
P. sive Quinquefolium vulgare repens. *Bauh. Hist. v.* 2. 397. *f.*
P. minus. *Brunf. Herb. v.* 2. 34. *f.*
Quinquefolium. *Matth. Valgr. v.* 2. 365. *f. Camer. Epit.* 759. *f.* bad.
Q. vulgare. *Ger. Em.* 987. *f.*
Q. majus luteum. *Fuchs. Hist.* 624. *f.*
Fragraria n. 1118. *Hall. Hist. v.* 2. 47.
β. Pentaphyllum aureum minus sylvaticum nostras, foliis tripartitò divisis, ex cauliculorum geniculis radicescens. *Pluk. Almag.* 285. *Dill. in Raii Syn.* 255.

In meadows, pastures, and by way sides, common.
Perennial. *June—August.*
Root tapering, throwing out several long, prostrate, leafy, round, slightly hairy *stems,* which fix themselves by radicles from the

joints. *Leaves* opposite, in pairs from each joint, on longish, ascending, hairy *footstalks*, with a pair of small, linear, acute, membranous, combined *stipulas* at the base of each, accompanied by two opposite, 3-lobed or undivided, entire, leafy *bracteas*. *Leaflets* 5, strongly serrated in their upper half, rough or hairy about the edges. *Flowers* large, bright yellow, on long, simple, naked, rather hairy, axillary, solitary stalks, taller than the leaves. *Cal.* most hairy at the base; outer segments ovate, about as long as the inner, but more leafy. *Recept.* hairy.

I have not seen the variety β, but it should seem to owe its smaller stature to a dry or barren situation.

The bark of the root is astringent, and hence this plant has found a place in the *Pharmacopœia*; but it is now out of use, there being many more efficacious medicines of the same kind.

*** *Leaves ternate.*

10. P. *tridentata*. Three-toothed Cinquefoil.

Leaflets three, wedge-shaped; smooth above; hairy beneath; with about three terminal teeth. Stem panicled, erect. Seeds even.

P. tridentata. *Soland. in Ait. Hort. Kew. ed.* 1. *v.* 2. 216. *t.* 9. *ed.* 2. *v.* 3. 279. *Sm. Tr. of L. Soc. v.* 10. 343. *Engl. Bot. v.* 34. *t.* 2389. *Comp.* 80. *Hook. Scot.* 163. *Willd. Sp. Pl. v.* 2. 1110, *excl. the syn. of Retzius and Fl. Dan. Nestl. Potent.* 66, *excl. the syn. also of Sibbald, Scot. Ill. which is certainly Sibbaldia procumbens.*

On the mountains of Scotland.

On a mountain called Werron, and some other hills in Angusshire, to the westward. *Mr. G. Don.*

Perennial. *May, June.*

Root creeping, woody, of a reddish brown. *Stems* several, herbaceous, 3 or 4 inches high, round, purplish, hairy, slightly leafy; somewhat corymbose at the top, bearing 3 or 4 elegant white *flowers*. *Leaves* all ternate; dark green above; paler and clothed with close hairs beneath; each *leaflet* an inch long, rather unequally toothed at the summit, otherwise entire: the radical *leaves* largest, on channelled *footstalks*, exceeding their own length. Lower *stipulas* undivided; those of the stem-leaves cut. *Cal.* hairy, purplish, with equal and uniform segments. *Pet.* obovate, undivided. *Recept.* and *germens* hairy. *Seeds* ovate, turgid, even and naked, except a tuft of hairs about the top.

American specimens, gathered by my valued friend Mr. Francis Boott, on the White Mountains of New Hampshire, have 4 or 5 teeth to some of their *leaflets*, but agree otherwise exactly with those from Scotland. *P. retusa, Fl. Dan. t.* 799, bears densely hairy leaves, and yellow flowers; and has as little affinity

to our plant as the likewise yellow *Sibbaldia*, which, according to Dr. Nestler, this *Potentilla tridentata* represents in the herbarium of Vaillant. Few of the most obscure of its genus have had more unsuitable synonyms.

11. P. *Fragariastrum*. Strawberry-leaved Cinquefoil.

Leaflets three, roundish-obovate, serrated, hairy. Stems prostrate. Seeds corrugated, hairy at the scar.

P. Fragariastrum. *Ehrh. Herb.* 146. *Hall. jun. in Ser. Mus. v.* 1. 49.
P. Fragaria. "*DeCand. Fr. v.* 4. 468." *Nestl. Potent.* 76. *Ser. Mus. v.* 1. 59. *t.* 4. *f.* 2. *Hook. Scot.* 164.
P. fragarioides. *Villars Dauph. v.* 3. 561.
Fragaria sterilis. *Linn. Sp. Pl.* 709. *Willd. v.* 2. 1093. *Fl. Br.* 546. *Engl. Bot. v.* 25. *t.* 1785. *Curt. Lond. fasc.* 3. *t.* 30. *Raii Syn.* 254. *Hoffm. Germ. for* 1791. 178. *t.* 6. *Bauh. Pin.* 327. *Fl. Dan. t.* 1579.
F. n. 1113. *Hall. Hist. v.* 2. 45.
F. minimè vesca, sive sterilis. *Ger. Em.* 998. *f.* *Lob. Ic.* 698. *f.*
Barren Strawberry. *Pet. H. Brit. t.* 40. *f.* 8.

In dry gravelly pastures, common.
Perennial. *March, April.*

Root woody, running deep into the ground. *Herb* hairy, with every character of a Strawberry, except in the *fruit*. *Stems* procumbent, but not creeping, or taking root; the *longer* ones leafy, barren; *shorter* somewhat ascending, bearing one or two leaves, and terminating in a very few small white *flowers*, on simple hairy *stalks*. *Leaves* ternate, on long *footstalks*, with a pair of linear acute *stipulas* united to their base. *Leaflets* rounded, broadly obovate or wedge-shaped, with several broad serratures, the central tooth small. *Cal.* silky, its outer segments rather the smallest. *Pet.* inversely heart-shaped, as long as the calyx. *Recept.* small, dry, hairy, permanent as in every *Potentilla*. *Seeds*, according to the observations of my most accurate friend Mr. Borrer, not even, but transversely wrinkled. They are also hairy about the *scar*, and inner margin, not crowned with fine bristles like the last.

I cannot understand by what rule this plant has been, by some distinguished botanists, referred to *Comarum*. It is a perfect *Potentilla* in character, though, like some others of this genus, it has entirely the habit of a *Fragaria*. Ehrhart first removed it from thence, and I prefer his specific name, though not one of the most elegant, to *Fragaria*. The latter would, indeed, be admissible if the plant were the only *Fragaria* ever described, and that genus were sunk in *Potentilla*. I hope my fellow labourers will not take offence if I try to keep the principles of our science incorrupt; though in nomenclature this is not to be accom-

plished, without the concurrence of those who ought to be of authority.

Notwithstanding the scientific labours of Dr. Nestler, Mr. Haller jun., and Mr. Seringue, who, according to their several opportunities, have greatly illustrated this subject, I perceive the whole genus of *Potentilla* still requires accurate revision, neither the Linnæan species, nor the synonyms of the earlier writers, being well understood. The British ones, as far as hitherto observed, will now I trust be intelligible; so that if any new species should be found, they may, by competent observers, be distinguished.

258. TORMENTILLA. Tormentil.

Linn. Gen. 256. *Juss.* 337. *Fl. Br.* 552. *Tourn. t.* 153. *Lam. t.* 444.

Nat. Ord. see *n.* 254.

Cal. inferior, of 1 leaf, flat, permanent; limb in 8 deep segments; 4 alternate ones external, and narrowest. *Pet.* 4, inversely heart-shaped, spreading, opposite to the external segments of the calyx, and attached by their very short claws to its rim. *Filam.* 16 or more, from the rim of the calyx, awl-shaped, erect, not half so long as the corolla. *Anth.* roundish, erect, of 2 cells, bursting lengthwise. *Germ.* superior, about 8, roundish, small, smooth, collected into a round head. *Styles* thread-shaped, short, erect, 1 to each germen, lateral, deciduous. *Stigmas* obtuse. *Seeds* ovate, naked, very obscurely and partially wrinkled, smooth. *Recept.* small, depressed, densely hairy, to which the seeds are attached laterally.

Root perennial. *Stems* weak, leafy, round, somewhat branched. *Leaves* digitate, cut; the upper ones sessile and opposite. *Fl.* yellow, on long, simple, lateral *stalks*, opposite to the leaves. Qualities astringent.

The distinction between this genus and the last certainly depends upon number, but the difference is obvious, and as constant as in any other similar instance, of which there are several universally adopted. Schreber abolished *Tormentilla*, but retained *Tillæa*, *Crassula*, *Rhodiola*, and many other such. He is followed, though not quoted, by some recent writers hereafter indicated. To follow up the question as it deserves would require a long and deep inquiry, nor is it to be settled by a hasty opinion. Scopoli's argument that "a one-eyed man is no less a man," does not seem to me very apt or ingenious. I would have concealed it, if I could, out of respect to

its excellent author. A young student, desirous of judging on points like this, will do well to recollect that if number, or any other character, be used to discriminate genera otherwise apparently distinct, still no character is of itself in all cases absolute. In *Gentiana* and many others, number is of no consequence at all, and will sometimes hardly distinguish species. In *Saxifraga* a superior or inferior germen makes no generic difference, though in general the most absolute of all characters. Superficial and partial views are dangerous to science. Ringent flowers, with 2 long and 2 short stamens, vary in many instances to a regular 5-cleft corolla, with 5 equal stamens. But this will hardly be thought to set aside the natural orders of *Verticillatæ* and *Personatæ*, or the class *Didynamia* of Linnæus.

1. T. *officinalis*. Common Tormentil, or Septfoil.

Stem ascending, branched. Leaves almost sessile. Stipulas cut.

T. officinalis. *Fl. Br.* 552. *Engl. Bot. v.* 12. *t.* 863. *With.* 476. *Curt. Lond. fasc.* 5. *t.* 35. *Hook. Scot.* 164. *Purt. v.* 1. 240.
T. erecta. *Linn. Sp. Pl.* 716. *Willd. v.* 2. 1112. *Huds.* 225. *Hull.* 112. *Relh.* 198. *Woodv. t.* 9. *Fl. Dan. t.* 589.
Tormentilla. *Raii Syn.* 257. *Ger. Em.* 992. *f.* *Lob. Ic.* 696. *f.* *Tillands Ic.* 30. *f.* *Brunf. Herb. v.* 1. 85. *f.* *Trag. Hist.* 503. *f.* *Matth. Valgr. v.* 2. 297. *f.* *Camer. Epit.* 685. *f.*, excellent. *Lonic.* *Kreuterb.* 243. *f.*
Heptaphyllum. *Fuchs. Hist.* 260. *f.*
Potentilla Tormentilla. *Sibth.* 162. *Abbot.* 114 *Nestl. Potent.* 65.
P. tetrapetala. *Hall. jun. in Ser. Mus. v.* 1. 51.
Fragaria. n. 1117. *Hall Hist. v.* 2. 47.

In barren pastures, heaths, and bushy places.
Perennial. *June, July.*

Root woody, internally red, very astringent. *Stems* weak, slender and wiry, supporting themselves on neighbouring bushes, often procumbent, more or less branched. *Leaves* of 3 oblong, acute, deeply serrated, dark green *leaflets*, somewhat hairy, especially the ribs underneath, with a very short, if any, common *footstalk*. *Stipulas* smaller than the leaflets, deeply cut. *Flowers* small, bright yellow, on slender hairy *stalks*, much longer than the leaves. *Cal.* ribbed, hairy. *Seeds* few, wrinkled in the upper part. The *flowers* have, very rarely indeed, 5 *petals*, and consequently 10 segments to the *calyx*; an accident not uncommon in several plants.

The late Miss Johnes of Hafod—"*herself a fairer flower*,"—— "*untimely plucked, soon faded*"!—gathered the Tormentil in Cardiganshire with double blossoms, like little yellow roses.

2. T. *reptans*. Trailing Tormentil.

Stem prostrate, scarcely branched. Leaves stalked. Stipulas undivided.

T. reptans. *Linn. Sp. Pl.* 716. *Willd. v.* 2. 1112. *Fl. Br.* 553. *Engl. Bot. v.* 12. *t.* 864. *Hook. Scot.* 164. *Raii Syn.* 257.

Potentilla procumbens. *Sibth.* 162.

P. nemoralis. *Nestl. Potent.* 65.

Pentaphyllum reptans alatum, foliis profundiùs serratis. *Plot Oxf. t.* 9. *f.* 5.

Plot's Tormentil. *Pet. H. Brit. t.* 41. *f.* 10.

About hedges and the borders of fields, but sparingly.

In several parts of Oxfordshire, and at Braintree, Essex. *Ray.* At Lakenham, near Norwich. *Mr. Crowe.* In Hertfordshire. *Mr. Woodward.* Surrey. *Herb. Lightf.* In barren ground in Scotland. *Sibbald. Hooker.* At Brighouse, near Halifax, Yorkshire.

Perennial. *June, July.*

Totally different from the last, as well as from *Potentilla reptans*, with which Hudson confounds it. The *stems* are 2 feet long, prostrate, but not creeping. *Stipulas* lanceolate, entire. *Leaves* on long hairy *footstalks*; *leaflets* 3 or 5, obovate, hairy, light green, more or less deeply cut or serrated. *Fl.* of a full yellow, twice the size of the foregoing, on long slender *stalks*. The lowermost have occasionally 5 *petals*, and 10 segments to the *calyx*, as in the last; but what some have taken for such a variety of this plant, I have found to be *Potentilla alpestris*, with partly decumbent *stems*.

T. reptans, Fl. Dan. t. 1217, appears to be a mere variety of *erecta*.

259. GEUM. Avens.

Linn. Gen. 256. *Juss.* 338. *Fl. Br.* 554. *Lam. t.* 443. *Gærtn. t.* 74.

Caryophyllata. *Tourn. t.* 151, A D F G.

Nat. Ord. see *n.* 254.

Cal. inferior, of 1 leaf, flat, permanent; limb in 10 acute, deep segments; 5 alternate ones much the smallest. *Pet.* 5, rounded, undivided or cloven, attached by their claws to the rim of the calyx opposite to its smaller segments, being about equal to the longer ones. *Filam.* numerous, awl-shaped, from the rim of the calyx, shorter than the corolla. *Anth.* short, roundish, of 2 cells. *Germ.* superior, ovate, compressed, very numerous, in a round head. *Styles* long, lateral, with a joint above the middle; lower part permanent; upper deciduous. *Stigmas* simple. *Seeds* ovate, compressed, hairy, each with a long lateral *tail*, formed of the enlarged, hardened, lower part of the style, terminating in a hook. *Recept.* cylindrical, dry, hairy, seated on the permanent reflexed calyx.

Root perennial, woody, astringent. *Stem* herbaceous, not much branched. *Leaves* green on both sides, hairy, interruptedly pinnate, lyrate, rarely simple, variously cut. *Fl.* terminal, one or many, yellow, seldom reddish or brownish, inodorous, often handsome. Natives of Europe or America, in cold or temperate climates, or on mountains.

1. G. *urbanum*. Common Avens. Herb Bennet.

Leaves ternate; radical ones somewhat lyrate. Stipulas rounded, cut. Flowers nearly upright. Styles naked.

G. urbanum. *Linn. Sp. Pl.* 716. *Willd. v.* 2. 1113. *Fl. Br.* 554. *Engl. Bot. v.* 20. *t.* 1400. *Curt. Lond. fasc.* 2. *t.* 36. *Woodv. suppl. t.* 259. *Hook. Scot.* 165. *Fl. Dan. t.* 672.

G. n. 1130. *Hall. Hist. v.* 2. 52.

Caryophyllata. *Raii Syn.* 253. *Ger. Em.* 994. *f. Dod. Pempt.* 137. *f. Matth. Valgr. v.* 2. 333. *f. Camer. Epit.* 725. *f. Brunf. Herb. v.* 2. 42. *f. Tillands Ic.* 34. *f.*

C. hortensis. *Fuchs. Hist.* 384. *f.*

C. vulgaris. *Bauh. Pin.* 321.

Avens, Herb Bennet. *Pet. H. Brit. t.* 40. *f.* 1.

β. *Willd. v.* 2. 1114. *Fl. Br.* 554.

Geum intermedium. *Ehrh. Beitr. v.* 6. 143. *Herb.* 106.

G. rivale β. *Fl. Br.* 555.

Caryophyllata vulgaris, majore flore. *Bauh. Pin.* 321. *Raii Syn.* 253.

C. sylvestris. *Fuchs. Hist.* 385. *f.*

Great-flowered Avens. *Pet. H. Brit. t.* 40. *f.* 2.

In woods, shady dry hedges and thickets, frequent.

β. Near St. Helen's well, by Darlington. *Mr. Robson.* In a low shady grove, by the river, at Matlock bath, Derbyshire.

Perennial. *May—August.*

Root of many stout brown fibres, astringent, and in some degree aromatic, said to give an agreeable clove-like flavour to beer, and even to wine. *Stem* 2 feet high, erect, round, rough and finely hairy; branched at the upper part, bearing several flowers. *Radical leaves* on long stalks, interruptedly pinnate, somewhat lyrate, the odd leaflet rounded, often deeply 3-lobed; *stem-leaves* ternate, stalked; *upper* simple, 3-lobed, wedge-shaped; all variously notched and serrated, grass-green, veiny, hairy. *Stipulas* of the stem-leaves very large, rounded, lobed, serrated, leafy. *Fl.* terminal, solitary, stalked; commonly small, bright yellow, erect; in β larger and more tawny, somewhat drooping. *Cal.* spreading, reflexed as the fruit advances. *Seeds* in an ovate head, numerous, ovate, downy, besides a few long coarse hairs about the summit, each tipped with a rigid, purplish, deflexed *awn* or *tail*, which is quite smooth, ending in a small sharp hook. In an early state this hook forms the curved part of the *style*, but the small portion above that part, always likewise, in

this species, smooth and naked, soon falls off with the *stigma*. I do not find the economy of these organs clearly explained by authors. The *seeds*, according to Gærtner, have only a simple *pellicle*, or *membrane*, within their hairy outermost coat, and the latter therefore cannot come under the denomination of any sort of *seed-vessel*.

The flowers of Ehrhart's *G. intermedium* are not, either in his specimens or mine, much larger than the common *urbanum*, but they are of a tawny hue, and rather drooping. The divisions of the *leaves* vary in both. I have suspected this *G. intermedium* might be a variety of *rivale*, caused by the pollen of *urbanum* ; but, on account of its general aspect, have removed it hither. The *styles* seem to agree best with *G. rivale*. I have not seen the ripe *seeds*, which it would be desirable to examine. I follow the opinion of Ehrhart in the synonyms attached to this variety, not having been able to verify them.

2. G. *rivale*. Water Avens.

Radical leaves interruptedly pinnate, somewhat lyrate. Stipulas ovate, acute, cut. Flowers drooping. Styles hairy above the curvature.

G. rivale. *Linn. Sp. Pl.* 717. *Willd. v.* 2. 1115. *Fl. Br.* 554. *Engl. Bot v.* 2. *t.* 106. *Hook. Scot.* 165. *Fl. Dan. t.* 722.
G. n. 1129. *Hall. Hist. v.* 2. 52.
Caryophyllata montana purpurea. *Raii Syn.* 253. *Ger. Em.* 994. *f.*
C. montana, nutante flore. *Clus. Pann.* 433. *f.* 434.
C. montana prima *Clus. Hist. v.* 2. 103. *f.*
C. aquatica. *Camer. Epit.* 726. *f.*
C. septentrionalium rotundifolia, papposo flore. *Lob. Ic.* 694. *f.* fl. too upright.
Mountain Avens. *Pet. H. Brit. t.* 40. *f.* 3.
β. Geum rivale γ. *Fl. Br.* 555. Var. 3. *With.* 478.
G. hybridum. *Wulf. in Jacq. Misc. v.* 2. 33. *Ic. Rar. t.* 94. *Reynier Mem. v.* 1. 222.
Caryophyllata montana tertia. *Clus. Pann.* 437. *f.* 438. *Hist. v.* 2. 104. *f.*
C. aquatica. *Camer. Epit.* 726, 3 *lateral figures.*
C. aquatica, flore rubro striato. *Bauh. Hist. v.* 2. 398. n. *f.*
C. prolifera, flosculis elegantissimis. *Loes. Pruss.* 37. *t.* 6.
C. montana flore pleno. *Merr. Pin.* 22. *Raii Syn.* 253.
Childing Avens. *Pet. H. Brit. t.* 40. *f.* 4.

In moist meadows and woods, especially in mountainous countries. Not rare in the north of England, Scotland, Wales, nor even in Norfolk.

β. In the north of England. *Ray.*
Perennial. *June, July.*

Root somewhat woody, blackish, creeping, and running deep into the ground; astringent, with the flavour of cloves. *Herbage* hairy, deep green. *Stem* 8 to 12 inches high, slightly panicled, otherwise simple. *Radical leaves* stalked; their terminal lobe very large, rounded, lobed, and sharply crenate; *stem-leaves* few, stalked, ternate or 3-lobed. *Stipulas* of the latter ovate, acute, cut, purplish. *Fl.* almost pendulous, singularly elegant, growing upright as the seeds ripen. *Cal.* of a rich purplish brown, erect; subsequently reflexed. *Pet.* erect, cloven, of a tawny brown, altogether peculiar. *Germen*, and lowest part of the *style*, bearing several long hairs, above which are some shorter and glandular ones; but a considerable space under the very strong and remarkable curvature is smooth. Above the curvature is a rather long, very hairy portion, which falls off with the *stigma*, leaving a hook behind. When compared before the fall of this part with more advanced specimens, the plant might be taken for two distinct species, and I have received it as such from a very skilful botanist.

Whatever the variety β of the foregoing species may be, that of the present, at least, is no hybrid, as I can vouch from experience. It is readily produced by transplanting the wild roots into a dry gravelly soil, by which the *flowers* become red, as well as double and proliferous, with many strange changes of *leaves* into *petals*, and the contrary. This variation happens, not unfrequently, in mountainous countries.

The foreign species of *Geum*, *montanum* and *reptans* not excepted, require examination as to the structure and progress of their *styles*, which must decide whether they properly belong to this genus or the next.

260. DRYAS. Dryas.

Linn. Gen. 256. *Juss.* 338. *Fl. Br.* 555. *Lam. t.* 443. *Gærtn. t.* 74.

Nat. Ord. see *n.* 254.

Cal. inferior, of 1 leaf, flat, permanent; limb in 8 or 10 deep, spreading, equal or unequal, permanent segments. *Pet.* 8, occasionally 10, in some perhaps 5 only, roundish, undivided, spreading, longer than the calyx, attached by their claws to its rim. *Filam.* numerous, capillary, from the rim of the calyx, much shorter than the corolla. *Anth.* small, roundish, of 2 lobes. *Germens* superior, numerous, small, oblong. *Styles* lateral, long and capillary, straight, continuous. *Stigmas* simple, smooth. *Seeds* obovate-oblong, hairy, each with a very long, hairy, lateral *tail*, straight at the extremity. *Recept.* depressed, downy, minutely cellular.

Root perennial, woody, much divided at the crown. *Stems*

simple, short, leafy. *Leaves* stalked, simple or compound. *Fl.* large, solitary, stalked, white or yellow.

1. D. *octopetala*. White Dryas, or Mountain Avens.

Petals eight. Leaves simple; downy beneath.

D. octopetala. *Linn. Sp. Pl.* 717. *Willd. v.* 2. 1118. *Fl. Br.* 555. *Engl. Bot. v.* 7. *t.* 451. *Hook. Scot.* 165. *Fl. Dan. t.* 31.
D. n. 1133. *Hall. Hist. v.* 2. 54.
Caryophyllata alpina, chamædryos folio. *Raii Syn.* 253.
Chamædrys alpina, cisti flore. *Bauh. Pin.* 248. *Clus. Pann.* 610. *f.* 611.
Ch. montana. *Dalech. Hist.* 1164. *f.*
Ch. montana durior. *Lob. Ic.* 495. *f.*
Teucrium alpinum, cisti flore. *Ger. Em.* 659. *f.*

On stony alpine heaths.
On mountains between Gort and Galloway, Ireland. *Mr. Heaton.* Near Sligo. *Mr. Lhwyd.* On the highland mountains of Scotland, in many places, in a micaceous as well as limestone soil. *Lightfoot.* In the north-west part of Yorkshire, in the district of Craven. *Rev. W. Wood.* In Durham. *Rev. J. Harriman.*
Perennial. *July, August.*
One of the most elegant of alpine plants. *Roots* strong and woody, forming extensive matted tufts of short, erect, somewhat shrubby, leafy *stems*. *Leaves* evergreen, stalked, crowded, simple, ovate, near an inch long, obtuse, strongly, though bluntly, serrated; convex, furrowed, smooth, of a deep shining green above; snow-white and cottony, with a red rib, beneath. *Footstalks* hairy, about as long as the leaves or longer, with a pair of long, awl-shaped, hairy *stipulas*, united to the base of each. *Fl.* large, solitary, on long, terminal, hairy *stalks*. *Cal.* for the most part in 8 equal, uniform, cottony and bristly segments, sometimes 10, very rarely 6. *Pet.* obovate, of a brilliant white, as many as the divisions of the calyx, with a strong disposition to exceed in number. *Styles* densely feathery and silky, straight, without any joint or curvature, lengthened out as the flower fades into long feathery tails to the *seeds*, tipped with the more or less permanent, smooth, coloured *stigmas*.
It seems that the *stigmas* finally fall off, leaving the tails abrupt, but straight and unchanged, not hooked as in *Geum*. There is indeed no apparent joint, or interruption, in the course of the *style*, and if the *stigma* breaks off, it is only, as in other innumerable instances, because its functions are performed, and it becomes a dead part. The beautiful *Dryas pentapetala* precisely agrees in these particulars with *octopetala*, and is therefore improperly removed to *Geum* by Willdenow. See the remark at the end of the preceding genus.
An entire-leaved *Dryas*, called *integrifolia* in *Fl. Dan. t.* 1216,

which I have from West Greenland, gathered by Mr. W. Jameson, differs in no other respect from the *octopetala*, and may be a variety.

261. COMARUM. Marsh-cinquefoil.

Linn. Gen. 257. *Juss.* 338. *Fl. Br.* 556. *Lam. t.* 444. *Gærtn. t.* 73.

Nat. Ord. see *n.* 254.

Cal. inferior, of 1 leaf, concave, coloured, permanent; limb large, in 10 deep, spreading, acute segments, 5 alternate ones exterior, much the smallest. *Pet.* 5, less than the smaller segments of the calyx to which they are opposite, attached to its rim, lanceolate, acute. *Filam.* numerous, from the rim of the calyx, awl-shaped, erect, nearly as long as the corolla. *Anth.* roundish, incumbent, deciduous. *Germens* numerous, small, ovate, smooth, collected into a head. *Styles* straight, simple, short, lateral. *Stigmas* simple. *Seeds* numerous, naked, ovate, even, scattered over the surface of a large, dry, spongy, hairy, hemispherical, permanent *receptacle.*

Herbaceous, creeping, with pinnate and ternate *leaves*, and several panicled *flowers.* The genus is allied in character to *Fragaria*, but totally different in habit. The very unequal *calyx*, and small lanceolate *petals*, with the spongy permanent *receptacle*, are good technical characters, strongly confirmed by a most distinct habit. It is difficult to conceive upon what principle *Fragaria sterilis* of Linnæus could be referred to *Comarum ;* certainly by no natural or artificial character.

1. C. *palustre.* Purple Marsh-cinquefoil.

C. palustre. *Linn. Sp. Pl.* 718. *Willd. v.* 2. 1119. *Fl. Br.* 556. *Engl. Bot. v.* 3. *t.* 172. *Dicks. H. Sicc. fasc.* 2. 16. *Hook. Scot.* 165. *Fl. Dan. t.* 636.

Potentilla Comarum. *Nestl. Potent.* 36.

Pentaphylloides palustre rubrum. *Raii Syn.* 256.

Pentaphyllum rubrum palustre. *Ger. Em.* 987. *f. Lob. Ic.* 691. *f.*

P. palustre. *Cord. Hist.* 96. *f.*

Quinquefolium palustre. *Camer. Epit.* 762. *f.*

Q. palustre rubrum. *Bauh. Pin.* 326.

Q quartum. *Dod. Pempt.* 117. *f.*

Fragaria n. 1128. *Hall. Hist. v.* 2. 51.

β Pentaphyllum palustre rubrum, crassis et villosis foliis, Suecicum et Hibernicum. *Pluk. Almag.* 284. *Phyt. t.* 212. *f.* 2. *Raii Syn.* 256.

In spongy muddy bogs and ditches.
Perennial. *June, July.*

Root creeping extensively, with many long fibres. *Stems* ascending, round, reddish, leafy, downy and panicled in the upper part, a foot or more in height. *Lower leaves* stalked, of 5, rarely 7, elliptic-oblong, acute, sharply and simply serrated *leaflets:* downy and whitish, or glaucous, beneath; *upper* ternate, nearly sessile. *Stipulas* oblong, acute, cut, attached in pairs to each *footstalk*. *Fl.* several, on panicled downy stalks, without scent, but handsome, an inch broad, all over of a dark purplish blood-colour, as well as the *fruit*.

β has thicker more hairy *leaves* than ordinary, but is a trifling variety.

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ERRATA.

p. 147, l. 27, *dele* fruit.
154, l. 13, for *Pan.* read *Pann.*
304, l. 11, *read* Hyperici folio.

The reader is requested to expunge the name of *Rosa subglobosa*, wherever it occurs, substituting in its stead *R. Sherardi;* especially at p. 384, n. 10, where the following reference should be added after the specific character :
R. Sherardi. *Davies Welsh Botanol.* 49.

END OF VOL. II.

LONDON:
PRINTED BY RICHARD TAYLOR, SHOE-LANE.



KING'S COLLEGE